

New Economic Reforms
**HOPE OR MIRAGE
FOR DALIT LIVELIHOODS?**

Jayshree P Mangubhai

in association with

M Sudhakar David

Aloysius Irudayam sj



SAKSHI

HUMAN RIGHTS WATCH, ANDHRA PRADESH

"We must begin by acknowledging the fact that there is a complete absence of two things in Indian society. One of these is equality. On the social plane, we have in India a society based on the principle of graded inequality, which means elevation for some and degradation for others. On the economic plane, we see wealth as against many who live in abject poverty... How long shall we continue to live this life of contradiction? How long shall we continue to deny equality in our social and economic life? If we continue to deny it for too long, we will do so only by putting our political democracy in peril."

-Dr B R Ambedkar

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Dalit Livelihoods?**

**Three Case Studies from
Andhra Pradesh**

Jayshree P Mangubhai

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Human Rights Watch – Andhra Pradesh

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Hope or Mirage for Dalit Livelihoods?

Jayshree P. Mangubhai, with M. Sudhakar David & Aloysius Irudayam s.j.

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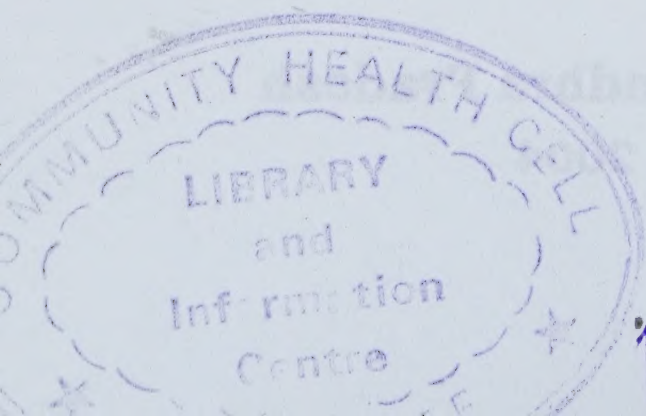
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Preface

The implications of caste-based occupational differentiation between Dalits and dominant castes, coupled with economic-social-political marginalisation, have been to deny Dalits access to basic livelihood entitlements. They have not been equally placed to compete with the non-Dalit castes in the market in order to secure their right to livelihood. In the changing globalised, liberalised economy, non-Dalits are able to adapt and accordingly respond to market changes because they possess assets such as land, education and financial capital. Dalits, however, have been historically excluded from ownership or access to such assets. Hence, it is the dominant castes who alone are capable of seizing the majority of benefits of globalisation processes.

For the Dalits, with few livelihood assets and hence the least ability to take risks, the New Economic Reforms herald greater economic vulnerability. Further, with meagre social security measures in place to protect their right to livelihood, the dynamics of globalisation driven economic policies result in infringements of their rights to work, to goods and services and to resource entitlements. They are subsumed more and more into the informal sector where their labour is further exploited to the benefit of the capitalised classes - castes. A marginalised community is only further alienated from the ongoing development process. This has also other damaging consequences, as seen in studies on mounting atrocities against Dalits that point to the increasing violence used against Dalits to suppress growing assertiveness of their right to livelihood.

Andhra Pradesh is the first state in India to change its policies as part of the New Economic Reforms in the 1990s. A decade on from the introduction of the New Economic Policy, Sakshi felt, was time enough to assess its impact on the 10.529 million Dalits in Andhra Pradesh, many of whom continue to live below the poverty line in rural areas and engage in daily wage labour to eke out a meagre livelihood. Mounting evidence before our eyes shows that the situation of denial of Dalits' human rights due to perpetual untouchability

practices, caste-discrimination and social exclusion has only worsened under the globalisation driven liberalisation policies of the State Government. Therefore, it becomes necessary to expose how these globalisation benefits do not 'trickle down' to Dalits, but remain instead in the hands of the dominant castes.

This study examines the concept and context of globalisation, as manifested in the Andhra Pradesh Government's Vision 2020 economic policy, and its actual impact on Dalit livelihoods. The focus is on three major programmes that have been projected as key engines for development and employment generation in rural areas, namely Watershed Development, Contract Farming and Aquaculture. Bold promises have been made that these projects will bring about a revolution in irrigation, agriculture and aquaculture respectively. However, for the Dalits and other poor and marginalised citizens of the state, these promises have proved hollow so far.

Sakshi hopes that this book will be utilised by the Government of Andhra Pradesh, International Development Cooperation Agencies and International Financial Institutions, as well as social activists and all those concerned over the impact of the current New Economic Reforms on the poor and marginalised, to understand better how caste factors into attainment of livelihood rights for Dalits. This should lead to the design of more effective programmes which can seize up the challenge of transforming caste relations and ensuring equal access to livelihood capitals and assets for the Dalit community.

Finally, thank you to the authors for their time and commitment to bringing a long-missing caste perspective to the livelihoods and development discourse.

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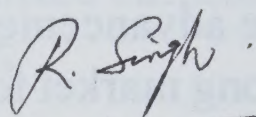
Foreword

Globalisation and Dalit livelihood rights are major concerns of the day which highlight issues of basic rights like food, shelter and clothing. The advancement of technology has brought people together. The strong market forces talk of globalisation and the walls, portals and barricades have come down. But sadly for all of us discrimination on the basis of caste and all other forms of intolerance continue to destroy the people. Unfortunately the walls of hatred have not been pulled down and are instead much higher than before. We have still people who are socially isolated and constitute a very sizeable population in India. This is shocking even after 56 years of Indian Independence. Promises are made in the Constitution of India where *Article 17* clearly mandates that “untouchability is abolished now and its practice in any form is prohibited.” Despite this constitutional directive untouchability in India is still a reality.

Ours is a story of unkept, unfulfilled promises which we made in our Preamble to the Constitution. We have yet to solve our problem of graded inequality, caste and other degrading living conditions faced by the Dalits in India, informed by enormous social evils where globalisation adds to the fire. What is disturbing in the concept of globalisation is the dangerous trend in increasing inequality, the increasing divide between the urban and the rural. Globalisation may be important, but we also need to give top priority and declare a war to defeat endemic poverty. Democracy is a myth when millions suffer and India, as the forth largest economy in the world, continues to house the largest number of the world's poor. There is a need to

have a comprehensive policy and direct approach to provide equal opportunity, empowerment and security to poor communities. The impact of globalisation involves very important human rights issues that must be addressed.

New Economic Reforms: Hope or Mirage for Dalit Livelihoods? is a timely and important book which would be very useful for policy makers and also for enforcement agencies who are interested in good governance, equality and dignity of all human beings, especially for the Dalits and other poor. India has come a long way. But there is certainly a need to envision a more humane tomorrow for all Indians, especially the fourth world within the third world, "The Invisibles."



Ranbir Singh

Introduction

Communities across the world have to increasingly negotiate globalisation today. This process of integrating the world's markets under one single economy is characterised by the growth and expansion of transnational capital. It is driven by a neo-liberal philosophy of market profitability and economic efficiency. In its current phase, rapid advances in technology and macro-economic policies of trade, financial and foreign direct investment liberalisation, reduction in government expenditure and increasing privatisation of services are taking place. These developments limit the role and capacity of the State to exercise control over its local economy, market and developmental processes, production and labour relations and fulfill its human rights obligations. Instead, the market determines the production and distribution of goods and services, influencing the utilisation of key development resources of land, labour and capital.

Through integration of local economies into the market, macro-economic policies are said to result in raised incomes due to greater resource and capital investment in producing commodities. These benefits supposedly trickle down to the poor in this process. However, by supplanting the State with the market as the regulator of growth and development, globalisation promotes the interests of supranational private corporations. These corporations collectively command international markets to a large extent, are guided by profit maximisation motives and influenced by market forces of demand and supply. Hence, they seek to minimise the costs of production. In doing so, these interests are often inimical to the well being of local communities, as they do not set socio-economic security and equity as goals.

Moreover, there are irreconcilable contradictions between neo-liberal economic theory premises and social reality. The neo-liberal theory assumes an equal playing field where all compete on an equal footing in the market, ignoring the social reality of differing local economies from country to country. This social reality includes factors of race, caste, ethnicity, gender and class, which often dictate differential

access of social groups to resources, ownership of means of production, socio-political assets and opportunities for development. These factors directly contradict two central tenets of human rights, the right to sovereignty and the overarching principle of freedom from discrimination. The people are denied their right to an economic and cultural system that does not undermine the sustainability of livelihoods or resources. They are also denied their right to equality to ensure that particularly poor and marginalised social groups are granted equal access to the benefits of development.

Most governments have ratified or acceded to a host of international human rights laws. It is, therefore, human rights which provides the balancing legal framework to protect the social dimensions of globalisation and is the ‘first responsibility of governments.’¹

The human rights approach to globalisation, based on *Article 28 Universal Declaration of Human Rights 1948*, states that ‘everyone is entitled to a social and international order in which the rights and freedoms set forth in this Declaration can be fully realised.’ This is elaborated as ‘such an international and social order ... that promotes the inherent dignity of the human person, respects the right of people to self-determination and seeks social progress through participatory development and by promoting equality and non-discrimination in a peaceful, interdependent and accountable world.’²

These rights are unambiguous, and cannot be suspended or superseded. Though a country may have a responsibility to implement trade rules and IMF-World Bank structural adjustment loan conditionalities, it has a concurrent and overriding responsibility to promote and protect the human rights of its citizens. It must ensure that implementation of such policies not only enhance economic growth, but also do not violate the principle of non-discrimination. This requires governments to take immediate action to protect the rights of those who do not benefit from such growth. Economic and trade policies must accommodate the specific socio-economic situations of communities within the country, especially the vulnerable poor and marginalised. Accordingly, governments should set in place affirmative action measures to protect their rights.³ This also includes an obligation to guarantee education, healthcare and basic

amenities to a level that achieves the progressive realisation of human rights and human development for all, particularly rights espoused in the *International Covenant on Economic, Social and Cultural Rights 1966*.

New Economic Reforms: India and Andhra Pradesh

While India commenced liberalisation of its market in the 1980s, economic crisis precipitated the introduction of the New Economic Policy in 1991. This policy was based on an IMF-World Bank macro-economic stabilisation and structural adjustment programme. The IMF-World Bank loan conditionalities saw the Indian Government withdraw from the economic sphere through curtailment of government expenditure, particularly in social programmes and infrastructure and cuts to state subsidies and price support programmes. This was coupled with the rapid expansion of the market-friendly, supply and demand-controlled private sector, reforms to the taxation system and in banking and financial institutions, and increasing import and export liberalisation.

A prominent myth promulgated by supporters of unchecked globalisation - liberalisation and privatisation - in India is that globalisation processes would be good for growth and the economy, and a growth-driven economy would decrease inequalities, increase incomes, decrease poverty and increase employment.

However, over a decade later, significant indicators expose the fallacy of this link between economic growth, increased employment opportunities and poverty eradication. Instead, emerging key trends affecting rights to livelihood and security, include:

- While according to the Indian Government the growth rate of the economy has increased to 6.4 percent in the 1990s and poverty levels have decreased from 38.9 percent in 1987-88 to 26.1 percent in 1999-2000,⁴ the actual number of those living in poverty has not reduced.
- The Planning Commission's Special Group on Job Creation estimates that the current unemployment rate is over 7 percent (as opposed to the Government's 1999-2000 estimate of 2.2 percent), with the number of unemployed swelling to at least 45 million by 2007. Job creation in the 1990s, post trade

liberalisation, is said to be three times less than in the 1980s, refuting the claim that economic growth automatically leads to greater employment opportunities.⁵

- The formal sector employment growth rate has almost stagnated at 0.04 percent in 1999 as compared to 1.44 percent in 1991, with negligible increase in public sector employment and private sector employment growth set at 0.11 percent in 1999 as compared to 1.24 percent in 1991.⁶
- Correlating with this declining formal sector growth rate is a higher labour absorption by the unorganised sector, witnessed by increasing casualisation of labour from 29.6 percent in 1987-88 to 32.0 percent in 1993-94. This will be particularly so where employment opportunities generated are human capital-intensive requiring education and technical skills in the formal sector, which excludes the majority of India's poor.⁷
- Privatisation and disinvestment have seen the Indian Government slowly reduce budgetary support for welfare measures. Per capita expenditure on health by central and state governments reduced from 1.25 percent of GDP in 1993-94 to 0.90 percent by 1999-2000. Education per capita expenditure reduced from 2.74 percent of GDP in 1993-94 to 2.49 percent by 1997-98 and then rose to 2.75 percent by 1998-99,⁸ still well below the prescribed level of 6 percent of GDP recommended by the Kothari Commission.
- Indian livelihoods have been affected by the lifting of import restrictions on many consumer goods items. The resulting flood of foreign consumer goods entering the Indian market threatens the local consumer market by displacing local products with factory produced mass goods.
- There has been an increase during this period in atrocities against women, Dalits and Adivasis, three of the most marginalised and discriminated social groups in India.⁹

Moreover, numerous studies are revealing that pressures on particularly livelihoods in rural areas, where 80 percent (and the majority of Dalits) of the Indian population is located and where primary employment opportunities lie in agriculture, are often intensified by patterns of agricultural development that enhance modes

of production through economic and technical change, than by lack of development. These patterns, prominent under macro-economic policy implementation, are processes of commodification or commercialisation of land and labour; formation of markets with social and institutional bias and inequalities; technical change and its environmental effects, such as modern techniques of horticulture and sericulture, along with increased mechanisation; and government policies and practices, that, intentionally or unintentionally, favour those with socio-political assets, namely the dominant rural caste-class groups.¹⁰

These processes only result in intensifying social inequalities, particularly on the basis of caste, class and gender, in access to land and natural resources and to opportunities arising out of economic policy shifts. The consequence is further pauperisation of already poor and marginalised communities. Poverty and consumption expenditure estimates during the 1990s reveal a marked increase in inequality in terms of increasing disparities in per capita expenditure across states, across the rural-urban divide, and within most urban areas in states.

Further, while per capita GDP has increased, the real wages of agricultural labourers have not kept pace with this increase while the opposite is true for public sector employees, indicating greater

Liberalisation of the Economy and its impact on Dalits

As a result of these [1991 economic] reforms the economy has picked up a fairly high rate of growth. However, higher economic growth by itself fails to trickle down to the poor, which has been recognised by Indian policy makers at the time of initiating poverty alleviation programmes. Earlier enquiries by the Mahalanobis Committee in 1964 and the Hazari Committee in 1967 have found that private sector enterprises are mainly guided by profit maximisation, which tends to accentuate inequalities. From the point of view of the economic upliftment of the Scheduled Castes, it is important that the benefits of the economic reforms and the consequent growth of the economy flow down to the Scheduled Castes, who are among the poorest of the poor.

National Commission for Scheduled Castes and Scheduled Tribes 6th Report, 1999-2000 & 2000-2001, para. 3.16.1

economic inequality between occupational groups.¹¹ The Indian Government's response to this process of mal-development being to cut already inadequate financing and implementation of programmes for social development only exacerbates the adverse impact of globalisation on the poor and marginalised.

Andhra Pradesh is commonly seen as a testing ground for globalisation processes of trade liberalisation and privatisation. The State Government commenced reorienting its economic policies in line with current macro-economic policies during the 1990s. A major emphasis was placed during this period on education, roads, ports, fisheries and other industrial sectors, signalling the entry of the private sector into energy, roads and other infrastructure projects. However, during that period the promise of economic reforms to reduce fiscal deficits and promote economic growth proved false, damaging the state's economy. The fiscal deficit more than doubled during the period 1990-91 to 1997-98 from Rs.967 crores to Rs.2,428 crores. Meanwhile, total loan repayments, including interest repayments, almost quadrupled from Rs.807 crores (83 percent of fiscal deficit) in 1990-91 to Rs.3,153 crores (129 percent of fiscal deficit) by 1997-98. And relatively low revenue creation over the same time period saw the revenue deficit increase from Rs.158 crore in 1990-91 to Rs.703 crore by 1997-98. This was accompanied by increasing public debt, rising from Rs.7,017 crore in 1990 to Rs.17,372 crore by 1997.¹²

This situation led the then ruling Telugu Desam Party (TDP) government to enter into negotiations with the World Bank, resulting in the introduction in 1998 of the first case of direct sub-national application of a structural adjustment policy reform programme in India. Based on a World Bank report, 'Andhra Pradesh: Agenda for Economic Reforms', the Andhra Pradesh Economic Reforms Project (APERP) for the period 1999 to 2004 comes at a cost of US\$ 543 million, one third of which is expected to be raised by the State Government through fiscal reforms aimed at public expenditure restructuring.

This economic restructuring programme is complemented by the Andhra Pradesh Power Sector Restructuring Programme (APPSRP), a loan amounting to US\$ 210 million and co-financed by

the UK Department of Funding for International Development (DFID) to the tune of a further US\$ 46 million, to allegedly transform the power sector through rationalising rates. By 2001 this took the number of externally aided projects in the state to 22 projects at a cost exceeding Rs.100 billion (Rs.10,000 crore), the World Bank funding 12 of the projects.¹³

The State Government's increased dependence on external aid resulted in the focus of revenue expenditure on these projects. Considerably reduced resources were left available for other programmes for socio-economic development. What is significant about the APERP is that it introduces comprehensive fiscal reforms aimed at macro-economic structural changes to key sectors of the state's economy, particularly roads, irrigation, public sector, power, health and primary education. A key thrust is not only privatisation of public sector enterprises, but also physical and social infrastructure.

This is coupled with reducing and reorienting welfare programmes such as rice subsidies, all aimed at reducing the state's fiscal deficit. The World Bank prescription of cost recovery from provision of basic infrastructure entails increasing tariffs on power and irrigation water supply, and higher costs for water supply, public transportation, higher education, secondary and tertiary hospital care and housing loans.

Vision 2020: Swarnandhra Pradesh

These trends have culminated in 1999 with the State Government bringing out its 'Vision 2020' policy document, based again upon the World Bank's report, 'Andhra Pradesh: Agenda for Economic Reforms.' The argument placed before the Andhra Pradesh people was that subsidies and social welfare programmes for the poor are the reason why the state has not grown as it should. This agenda of reducing subsidies to promote economic growth now forms the core of Vision 2020, which needs to raise 80 percent of funds from foreign direct investment in order to meet its targets. While chapter 1 of this policy document emphasises progress and prosperity through poverty eradication and social welfare, the remaining contents vitiate this development strategy through emphasising economic growth via further integration into the market economy as the only solution to development in the state.

Salient features of Vision 2020 include:

- Sets an ambitious target for 9 to 10 percent annual economic growth to realise socio-economic development of the state by the year 2020. What this would require is a nine-fold increase in the average per capita income.
- Transforms the nature of governance. The government's role in socio-economic development has been till recently as a provider and regulator of development, being the primary institutional mechanism through which livelihood resources could be re-allocated. Acknowledgement of the socio-economic inequalities existing in Andhra Pradesh society has seen a series of social welfare programmes specifically targeting Scheduled Castes,¹⁴ including land redistribution schemes and programmes to promote employment diversification among the Dalit community. However, this role is now being transformed into the government as a facilitator of market-based development. The idea is to provide an investor-friendly environment in the state wherein private actors are encouraged to take up not only enterprises and infrastructure projects in the state, but also provision of key services including education and healthcare.
- Shifts government's focus towards developing the productive capabilities of people through particularly primary education, job-oriented skills training and primary healthcare. These strategies will allegedly stimulate people's economic efficiency to attract private investment. This in turn will ensure a level of economic growth leading to increasing employment opportunities and, therefore, development in the state.
- Promises to stimulate growth in three major sectors of the economy - agriculture, industry and services - to both create employment opportunities as well as generate additional resources for the government to plough into social development measures. Identified 'growth engines' for priority investment consist of 19 areas of economic activity in these three sectors.
- Envisages an annual 6 percent agricultural growth rate for the 70 percent of the state's population who depend on agriculture and agriculture-related activities for their livelihoods, double

what it has been in past decades. However, at the same time around 20 million people will supposedly shift from agriculture to non-agricultural work activities. Stating that ‘the outdated paradigm of small and marginal farmers in agriculture is no longer viable’ for agricultural growth to occur, export-oriented growth engines such as agri-business and aquaculture form the new focus for development. However, the document makes no mention of how it will provide an alternative agricultural income to those who do not have sufficient natural, financial and human capital to compete in the export market.

Historical inequalities in India have led to deprivation on many counts for groups such as SCs, STs and BCs. The approach to developing these groups, therefore, will focus on providing the interventions required to remove their deprivations and build their capabilities. They include raising the literacy level of these groups, improving their access to healthcare, helping them establish secure livelihoods and ensuring they have access to state and civil institutions.

‘Developing Disadvantaged Groups’, Vision 2020,
Andhra Pradesh Government

Therefore, it becomes necessary to inquire into how Vision 2020 is being translated into action at the local level, to gauge how a policy promoting economic growth as the solution to poverty in the state, particularly for disadvantaged sections such as Dalits, can negotiate the myriad of caste-class-gender factors which condition people’s access to resources and means of securing their livelihoods. Already the government has acknowledged that focus upon sustainable livelihoods is supposed to allow the government to link between local issues and wider concerns about policies, institutions and processes, to better understand local priorities for development. This is especially so given the increased marginalisation and vulnerability of the poor in the modern economic environment.¹⁵ While this is the stated objective of the Andhra Pradesh Rural Livelihoods Project, how far this important objective is found at the broader policy level of Vision 2020 is vital to understanding the emerging forces controlling development for the poor and marginalised in the state.

What are Livelihoods in the context of the Right to Development?

The definition of livelihoods that is the base for most development agencies' approaches to livelihood interventions is that it 'comprises people, their capabilities and their means of living, including food, income and assets (stores, resources, claims and access). It is sustainable when it can cope with and recover from stress and shocks; maintain or enhance its capabilities and assets; provide sustainable livelihood opportunities for the next generation; and contribute net benefits to other livelihoods at the local and global levels and in the short and long term.'¹⁶

Securing a person's livelihood is the essential element for all human development and economic growth, development being taken to mean a 'comprehensive economic, social, cultural and political process which aims at the constant improvement of the well-being of the entire population and of all individuals on the basis of their active, free and meaningful participation and a fair distribution of the resulting benefits.'¹⁷ Building on this concept, the approach taken by this study is that a livelihood consists of:

- *Human Capital*: education, skills, health, labour power
- *Economic Capital*: employment, financial capital, savings and credit
- *Natural Capital*: land, water, forests, rivers, common property resources
- *Physical Capital*: housing, healthcare facilities, educational facilities, roads, livestock and physical goods.

Access to and ownership of these livelihood capitals is predicated on possession of *social* and *political assets*. These two assets allow people to make claims and access opportunities to build these capitals and to negotiate the structures - Government, IMF/World Bank, private sector- and processes - laws, policies, budgets, culture (caste system), institutions, the market - that can facilitate a person attaining her/his right to livelihood and to sustainable development. Under this approach, rights guaranteed under the *Indian Constitution* and international human rights treaties are thus entitlements which enable a person to realise and enhance their livelihoods. This in turn enables them to cope with risks and

difficulties that arise and adapt their livelihood strategies to changing economic, environmental or political circumstances.

Hence, livelihood rights link to the government's duty to promote and protect the right to development. This implies a duty to formulate appropriate state and national development policies aimed at the realisation of the right to social, economic, cultural and political development that places the human person at the centre of development.¹⁸ Moreover, as participation is a right through which all other development rights are exercised and protected - that is, qualitative and effective representation through participatory processes and accountability of decision making bodies, decentralisation of decision making and public access to information- it is a key indicator of progress towards realising the right to development.

Why Talk of Dalit Livelihoods?

The macro-economic policy thrust of Vision 2020 bases itself on the neo-liberal economic premise of an equal or neutral playing field where all compete for services and work based on their skills or merit. By doing so, it ignores the differently constructed reality for marginalised groups seeking to secure their livelihood. The majority of Andhra Pradesh Dalits lie outside mainstream socio-economic processes, many subsisting below the official poverty line due to socio-religiously ascribed deprivation under the caste system. The caste system subjects Dalits to widespread caste discrimination on the basis of descent (birth into a particular caste) and work (historically prescribed, immutable degrading occupations), which is reinforced through the social control mechanism of untouchability practices. This limits their socio-economic-political base and mobility, thus marginalising them in the process of development.

In a caste-based hierarchical society, where the fundamental social structure is itself based on social exclusion due to caste discrimination, caste becomes a key factor in understanding how marginalisation from economic, social and political spheres leads to poverty.¹⁹ Economic marginalisation means that Dalits, as the lowest caste in the social hierarchy, are denied the means and abilities that would allow them to participate in market exchange in land, labour, credit and output markets. The result is their concentration in low income,

‘unskilled’ manual labour occupations and an inability to make investments to increase productivity or own the means of production. This means an inability to protect themselves from risks and thereby increased vulnerability.²⁰

Political marginalisation for Dalits is alienation from citizenship rights to property, social justice and social protection, basic services such as education and healthcare and participation in agenda setting for development. This ensures that Dalits do not secure basic needs, vital resources such as land and the education and skills that could precipitate their upward social mobility.²¹ Social marginalisation includes being denied social recognition through prescribing Dalits as ‘polluted’ and unworthy of being touched, non-recognition and devaluation of their contribution through traditional service occupations to society, and social exclusion from participation in the socio-cultural life of the broader community.²² The consequences of social exclusion are that Dalits are disadvantaged in and often denied access to resources and opportunities for socio-economic development.

Therefore, in the context of globalisation processes, there are three key points which mark Dalit livelihoods as separate from non-Dalit livelihoods and which form the basis for assessing globalisation impacts from a Dalit perspective:

1. There is a clear demarcation between the livelihood activities of Dalits and non-Dalits under the caste system, which is legitimised by feudalistic practices of untouchability and caste discrimination. This is being maintained despite alleged socio-economic opportunities thrown open by globalisation processes and despite attempts by Dalits towards economic mobility.
2. Caste-imposed livelihood status disparities between Dalits and non-Dalits in livelihood areas are exacerbated by current globalisation processes (as translated into Andhra Pradesh Government’s policies post-1991), with non-Dalits reaping the benefits of globalisation processes.
3. Caste inequality and discrimination in access to livelihood resources, employment opportunities and markets further hinders the ability of Dalits to be equal players in the globalisation process. This is due to creating a level playing field of unequal players and consequently entrenching existing inequalities, discrimination and marginalisation.

1. Demarcation between Dalit and non-Dalit Livelihoods

Access to livelihood capitals, particularly employment in remunerative occupations, land, economic capital, education and skills, has traditionally corresponded to economic rights prescribed under the caste hierarchy. Hence, those pushed to the lowest caste rung, the Dalits, have been denied access to most livelihood building capitals so as to fix them in their position of waged labourers serving the dominant castes. For Dr. B.R. Ambedkar, specific features of the economic organisation of the caste system led to its emergence as a rigid, vertically hierarchical social order:

- It fixes the occupation of each caste and its continuance by heredity, while prohibiting occupational mobility across castes. This is particularly enforced among the lower castes in the hierarchy.
- The caste system provides for unequal distribution of property rights and other economic rights among the caste groups, maintaining a core principle of graded inequality in socio-economic relations. Hence, not only are occupations fixed, but access to ownership of resources and economic opportunities are likewise circumscribed according to caste. For Dalits, lying at the lowest rung of the social hierarchy, allocation of little if any economic rights leaves no scope for forward economic mobility.
- By also restricting access to education and skills capacitation for the lower castes, particularly the Dalits, and promoting education within a select 'higher' caste groups, graded inequality in human capital formation is achieved. The implications of this are that Dalits are ill equipped with skills to branch out into different occupations, relying foremost on their labour strength to secure the limited and diminishing work opportunities in mostly waged labour.
- This unnatural economic order is enforced through the provision of a coercive mechanism in the form of penalties and the imposition of social disabilities through socio-religiously sanctioned untouchability practices and atrocities. Therefore, no space exists to assert Dalits' basic right to livelihood, as any assertion leads to an immediate backlash to retain unequal power relations between Dalits and dominant castes.²³

Scheduled Castes have been identified on the basis of their extreme educational and economic backwardness resulting out of the traditional practices of untouchability... Their occupations gave them meagre returns for the jobs they performed. Their services for the society, though absolutely essential, were considered menial, unclean and required hard labour but brought abysmally low returns.

National Commission for Scheduled Castes and Scheduled Tribes
6th Report 1999-2000 & 2000-2001, para. 3.3.1

The overall result is that caste-ascribed occupations have traditionally dictated and circumscribed the access of different caste groups to the labour market and economic mobility. Access and control over decision-making structures regarding resources allocation and their usage have also been similarly circumscribed. Not only this, the core doctrine being economic inequality, the caste system has legitimised exploitation of 'lower' castes for economic gain, sanctioning and legitimising in effect their poverty. This has pushed particularly Dalits into more subsistence oriented livelihoods, placing in effect a 'glass ceiling' over the livelihood choices available to Dalits.

This situation has changed over time, though to varying degrees depending on caste status. The majority of the dominant castes with greater financial resources have been able to shift into new occupations in the process of development, moving from rural to urban employment, and moving into new areas of employment such as information-communications technology or aquaculture, or into the formal, organised sector. And in the rural agriculture and non-agriculture sector most dominant castes have retained ownership of these livelihood activities over the years, aided by their control to a large extent of resources such as land and water and access to credit and land markets.

By contrast, untouchability remains the dividing line between those who can socio-economically progress and those who cannot. As such, for the Dalits economic marginalisation and severely curtailed occupational mobility remain even today. This is due to:

- Their lack of ownership of production processes, the majority of Dalits being ascribed and hence involved in waged labour, particularly in menial or manual work in service for others;

- Their lack of access to and control over resources;
- Their lack of skills, given that most Dalits have been ascribed menial, so-called dirty and unskilled hard labour occupations which do not yield the required skills to compete in a market-driven, human capital-intensive economy. In other words, Dalits continue to be denied access to human capital, natural and physical resources and institutional power. This thereby limits opportunities for Dalits to utilise resources for the purposes of production, consumption and exchange and results in Dalits' alienation from the development process; and
- Their lack of socio-political contacts to access opportunities for occupational mobility, due to their 'impure' status, untouchability practices and caste discrimination which socially alienate Dalits. This prevents them from forming any social networks that could generate the bridging social capital to tackle the factors that condition their livelihoods.

What Do the Facts Say?

- † As of the year 2000, the 10.529 million Dalits in the state, constituting 15.93 percent of the state's population, lag behind the general Andhra Pradesh population on almost every development indicator. Their precarious livelihood status is borne out by 50.4 percent being below the poverty line as compared to 32.0 percent for the general population.²⁴
- † With around 80 percent of Dalits found in rural Andhra Pradesh, available data up to 1993-94 indicates an increasing proportion of Dalit rural households engaged in labour work and particularly agricultural labour work in the 1990s. While there was a decline in the proportion of Dalit rural labour households from 1983-84 to 1987-88, between 1987-88 and 1993-94 there was an increase from 75.90 to 78.46 percent. By contrast, the proportion of non-SC/ST households involved in rural labour was already around half that of Dalits and their proportionate involvement in rural labour has remained almost the same between 1987-88 and the 1993-94 level of 42.28 percent.
- † Twice the proportion of rural Dalit households are engaged in agricultural labour as compared to non-Dalit households. Moreover, over the time period 1987-88 to 1993-94 while there

has been a 4.26 percent increase in Dalit agricultural labour households to 69.65 percent, non-Dalit households have witnessed a negligible increase of 0.39 percent.²⁵

- † Minimum wages for agricultural labourers in the state as on 1 January 1999 were as low as Rs.30.00 to Rs.36.50. Agricultural labour wage levels have increased by a mere 2.30 on average during the 1990s, as compared to wage level increases of between 5.17 and 8.73 in all other southern Indian states. Hence, agricultural wages, an important determinant of rural poverty in an agrarian economy, have not risen to meet inflation and rising costs of living in the state. The result can be observed in the vastly different monthly per capita consumption expenditure levels of Dalits as compared to non-Dalits. While the average monthly per capita consumption expenditure in 1999-2000 across Andhra Pradesh was Rs.453.61, the expenditure level for Dalits stood at a mere Rs.381.82 as compared to Rs.564.50 for non-Dalits.²⁶
- † Further accentuating the gap between Dalits and the rest of the working population, both agricultural and non-agricultural enterprise ownership by Dalits in 1990 accounted for only 6.3 percent of total enterprise ownership, while non-Dalits owned 88.8 percent of enterprises. Moreover, in terms of establishments, this disparity was greater, with Dalits owning only 2.0 percent of establishments as compared to 97.3 percent for non-Dalits.²⁷
- † Between 1998 and 1994 there was an overall growth rate of around 2 percent in public sector employment for Dalits, while the trend for non-Dalits saw declining public sector involvement.²⁸ The significance of these divergent trends is that with public sector reforms introduced by the State Government in the late 1990s signalling increasing disinvestment and privatisation of public sector enterprises, this alternative avenue of employment for Dalits is slowly being curtailed.

2 & 3. Globalisation, Caste and Dalit Livelihoods

The implications of occupational differentiation between Dalits and the dominant castes, coupled with economic and socio-political marginalisation, is that Dalits cannot access basic entitlements to develop the means and abilities to participate in the market, a political sphere controlled by the dominant castes. Hence, they cannot equally

compete with the dominant castes in the shifting economic scenario of privatisation and trade or market liberalisation to secure their right to livelihood. This is because competitiveness in the global market produces greater changes and opportunities but also greater economic risks than closed national markets. Those who are most able to adapt and accordingly respond to market changes due to possession of flexible assets such as land, education and economic capital gain with globalisation. All these assets being possessed predominantly by dominant castes rather than Dalits, it is a forgone conclusion that it is they who are capable of seizing the majority of benefits of globalisation processes. But for Dalits and other marginalised communities with few livelihood assets and hence the least ability to take risks, the result is greater economic vulnerability.²⁹

Without adequate safety nets to underpin Dalit livelihoods, Dalits are thus further excluded from accessing new occupational and development opportunities thrown open by globalisation processes. Moreover, in a situation where large inequalities in individual holdings of crucial factors of production prevail, markets tend to generate inequalities due to differences in methods used to acquire entitlements.³⁰ In other words, possession of human capital, financial, land and physical assets by the dominant castes ensures better entitlements in terms of jobs and income than Dalits who mainly supply labour and participate in the consumption economy. This thereby further widens the divide between Dalit and non-Dalit livelihoods.

The dynamics of these new processes expose Dalits to new forms of vulnerability by further denying or limiting their rights to work, to goods and services and to resource entitlements. Left to rely upon a labour market which is increasingly positioned to favour those with high human capital in the form of education and technical skills as opposed to labour capital, the formal sector is increasingly closing its doors to Dalits. Increasing privatisation of public sector enterprises destroys what little work opportunities were guaranteed under reservations to Dalits in the public sector. Possessing little if any physical and natural capitals, this leaves little option for most Dalits but to seek work in the informal and unorganised sector, where lower

incomes and lesser employment opportunities due to increasing mechanisation and labour surplus ensure greater chances of under-employment. Particularly where the majority of Dalits are concentrated in low-waged agricultural labour, lessening workdays within the local economy forces them to increase migration to the external economy of waged labour. The result is disruption to social family life and consequent negative implications for Dalit children's development.

Essential goods and services, including education, health services, housing under affirmative action policies, subsidies and the public distribution system, are slowly being dismantled or privatised. The State is withdrawing from direct intervention in these aspects and encouraging private sector participation. However, again, without State intervention to ensure that those possessing the lowest human capital are guaranteed access to these goods and services through reservations and preferential treatment, capital poor Dalits are left to rely upon the market and private actors to provide access.

Access to resource entitlements such as land and common property resources, though traditionally alienated from rural Dalits due to caste discrimination, had slowly been reversed through government programmes for land redistribution. However, with the withdrawal of the State Government from an implementation to a supposed facilitation role, and increasing land allocation to commercial industries and agri-business, Dalits are forced to rely more and more on the open land market. But in a situation with highly skewed landholding patterns, where leasing out depends on landholding size and hence is controlled by dominant castes and leasing in increasingly depends on financial capital, land markets are closed to Dalits due to their lack of financial and socio-political capitals. Moreover, for those Dalits concentrated in small and marginal landholdings, smaller land sizes, lesser access to agricultural inputs and lesser crop diversity all contribute to lower land productivity than that of the dominant caste large landholders.

Hence, their low capital base and prevailing caste discrimination that restricts their possession of socio-political assets ensure that Dalits are excluded from access to the market through denial of access to land, capital, employment and the afore-mentioned social services.

While discussing reforms in the agricultural sector, it is often suggested that land ceilings should be removed to encourage investment in the agricultural sector. However, it is important to remember that the vast majority of the workforce is dependent on agriculture either as small and marginal cultivators or as agricultural labourers.... Any relaxation on land ceilings is likely to impoverish a large number of small and marginal farmers who would be left with no alternative source of livelihood. On the other hand, to induce investment in agriculture and to avail of the opportunities created after joining the WTO, India can look forward to export of commodities by introducing high value-added agriculture on small and marginal landholdings which have high labour content.

National Commission for Scheduled Castes and Scheduled Tribes
6th Report 1999-2000 & 2000-2001, para. 3.5.5

By being excluded in this manner, Dalits are further pauperised and then co-opted into the market through assimilation into the lowest rung of the labour force, making them more vulnerable to exploitation. Caste identities are not loosened through the process of globalisation, though in some cases dependency of dominant castes on Dalits may decrease due to the introduction of technology and new occupations that they seize.

As the public sector, which was the next largest source of Dalit employment after agriculture, is being privatised, the majority of Dalits and other 'lower' castes become more and more dependent on the dominant castes for employment. The dependency is not only on the landlords, but also on dominant caste entrepreneurs, industrialists, investors and employers. This leads to increased segmentation and competition between the 'lower' castes and Dalits and hence greater atrocities as the former seek to assert their caste power over the latter and usurp work opportunities from Dalits. In other words, as intensification of pressures on rural livelihoods increase under globalisation, and as Dalits increasingly assert their rights to livelihood and resources to sustain their livelihood, there is a corresponding increase in atrocities against them.³¹

Overall, current globalisation processes in a caste-unequal society such as Andhra Pradesh are being seen to merely build upon a feudal caste-patriarchal economy, which further institutionalises inequitable

distribution of resources, ownership of the means of production and capital and access to opportunities. This in effect further institutionalises caste subservience of Dalits, by reinforcing denial of the following key freedoms necessary for their development: freedoms from discrimination, from want, from fear, from injustice, to develop and realise their potential, of speech, association and participation in decision-making, free of economic exploitation. Without addressing the social structures that deny Dalits freedom of livelihood choice and opportunity, globalisation-driven macro-economic policies are doomed to further exacerbate systemic deprivation, discrimination and economic disenfranchisement of Dalits.

What Do the Facts Say?

Continuing Denial of Right to Land

- † A greater percentage of Dalit rural labour and agricultural labour households are landless as compared to non-SC/ST households in these categories, higher than the all-India levels. Moreover, by 1993-94 landlessness among Dalit rural labour households and particularly agricultural labour households was higher as compared to two decades ago, indicating a negative shift in land ownership. By comparison, there was a huge drop of over 40 percent in landlessness among non-SC/ST rural labour and agricultural labour households. The sharpest disparity appeared in terms of rural agricultural labour households, with 75.3 percent of Dalit households in this category in 1993-94 landless as compared to a mere 15.76 percent of non-SC/ST households.³²
- † Given this widening gap between Dalits and non-SCs/STs in ownership of key land capital, the State Government's land redistribution programme under the *Andhra Pradesh Land Reforms (Ceiling on Agricultural Holdings) Act 1973*, as amended in 1977, has made only a small dent in this trend. Both in 1996 and in 2001 Dalits accounted for around 41 percent of beneficiaries of government land endowment schemes. However, of the total land area declared surplus (795,665 acres) in 1996, the government had failed to distribute around 30 percent of the land. Moreover, the period 1996 to 2001 had witnessed an increase in land cases pending before the courts, around 150,000

acres remaining locked in court cases to the detriment of many Dalit and other beneficiaries.³³

- † Of those Dalits owning land, most fall into the categories of marginal and small landholders. Their smaller plots of land indicate the predominance of subsistence agricultural operations or minor commercial agriculture, the number of marginal Dalit farmers increasing from 67.7 percent in 1981 to 70.7 percent in 1991. This was accompanied by a decrease in all other landholdings categories during the same time period. By comparison, only 56.0 percent of non-Dalits operated marginal landholdings in 1991.³⁴
- † Dalits owned only around 12.6 percent of the total landholdings and a mere 6.9 percent of the total operated area in 1981. These figures only slightly increased by 1991, with Dalits now owning 12.7 percent of landholdings and 7.5 percent of the total operated area. And with around 60 percent of the gross cropped area in Andhra Pradesh consisting of dryland with non-assured irrigation sources, quality of land in terms of irrigated holdings becomes another point of differentiation between Dalits and non-Dalits. Whereas 39.7 percent of Dalits in 1981 held irrigated holdings, by 1991 this had reduced down to a mere 17.7 percent, while non-Dalits in 1991 held around twice the number of irrigated holdings.³⁵

Poor Education Levels

- † At the start of the 21st century Dalits are still half as literate as the general population in the state, with only 32.35 percent literacy as compared to the general literacy level of 58.10 percent in 2001. Moreover, Dalit literacy in Andhra Pradesh remains less than the national Dalit literacy average. What signals a decline in educational delivery to Dalits is the poor growth rate in literacy levels recorded in the National Census from 1991 to 2001. Whereas from 1981 to 1991 literacy levels among Dalits grew by 13.94 percent, over the decade 1991 to 2001 the literacy growth rate dropped to a poor 0.76 percent. By comparison, general literacy in the state has steadily grown from 1981 to 1991 and 1991 to 2001 at a rate of between 9 to 13 percent.

- † Dalit women remain half as literate as their male counterparts, their literacy level marginally less than the national average for Dalit women. The abysmal state of Dalit women's literacy can be gauged from the growth from 10.26 percent in 1981 to a still poor 20.92 percent in 1991, while for the general female population higher literacy levels of 24.16 percent in 1981 increased to 32.72 percent by 1991.
- † Whereas the gross enrolment ratio in primary schooling in 1998-99 was higher for Dalits (106.61) than for the general school children population (85.20), by upper primary school there was a larger drop in the enrolment ratio among Dalit children (48.98). Moreover, while the enrolment ratio in primary and upper primary schooling had increased for Dalit children between 1978-79 and 1988-89, by 1998-99 this ratio had dropped.³⁷
- † In 1999-2000 drop-out rates among Dalit children (67.94) in primary level education continue to be much higher than that of the general school children population (58.29). Notably, drop-out ratios increased during the first half of the 1990s when economic reforms were first introduced, while by the second half of the 1990s the rates were again dropping, though at a greater rate for the general child population than for Dalit children. With a still large number of Dalit children dropping out to join primarily the labour force due to such factors as poverty, discrimination or poor quality schooling, they form a large portion of the 34 percent of children aged between 10 and 14 years engaged in child labour in 1993-94.³⁸
- † Despite the decreasing enrolment ratio and higher drop-out rates among Dalit children, the Andhra Pradesh Government has steadily decreased educational facilities such as government hostels for Dalit students over the past decade. Whereas in 1991 there were 2,231 hostels with 228,000 Dalit students on government records, by 1997-98 this number had dropped to 2,210 hostels with a Dalit student strength of 205,000.³⁹

Unrealised Right to Health and Basic Amenities

- † While generally rural areas fare worse than urban areas in terms of access to basic amenities of electricity, safe drinking water and toilet facilities, in both rural and urban settings caste disparity

is seen in terms of access to particularly electricity and toilet facilities. The 1991 National Census reveals that only 24.17 percent of Dalits as compared to 53.49 percent of non-SCs/STs had electricity in their homes, while only 6.66 percent of Dalits as compared to 22.00 percent of non-SCs/STs had toilet facilities. Only in terms of potable drinking water facilities was greater equity seen, due in part to such schemes as the million wells schemes and other targeted drinking water schemes of the government.

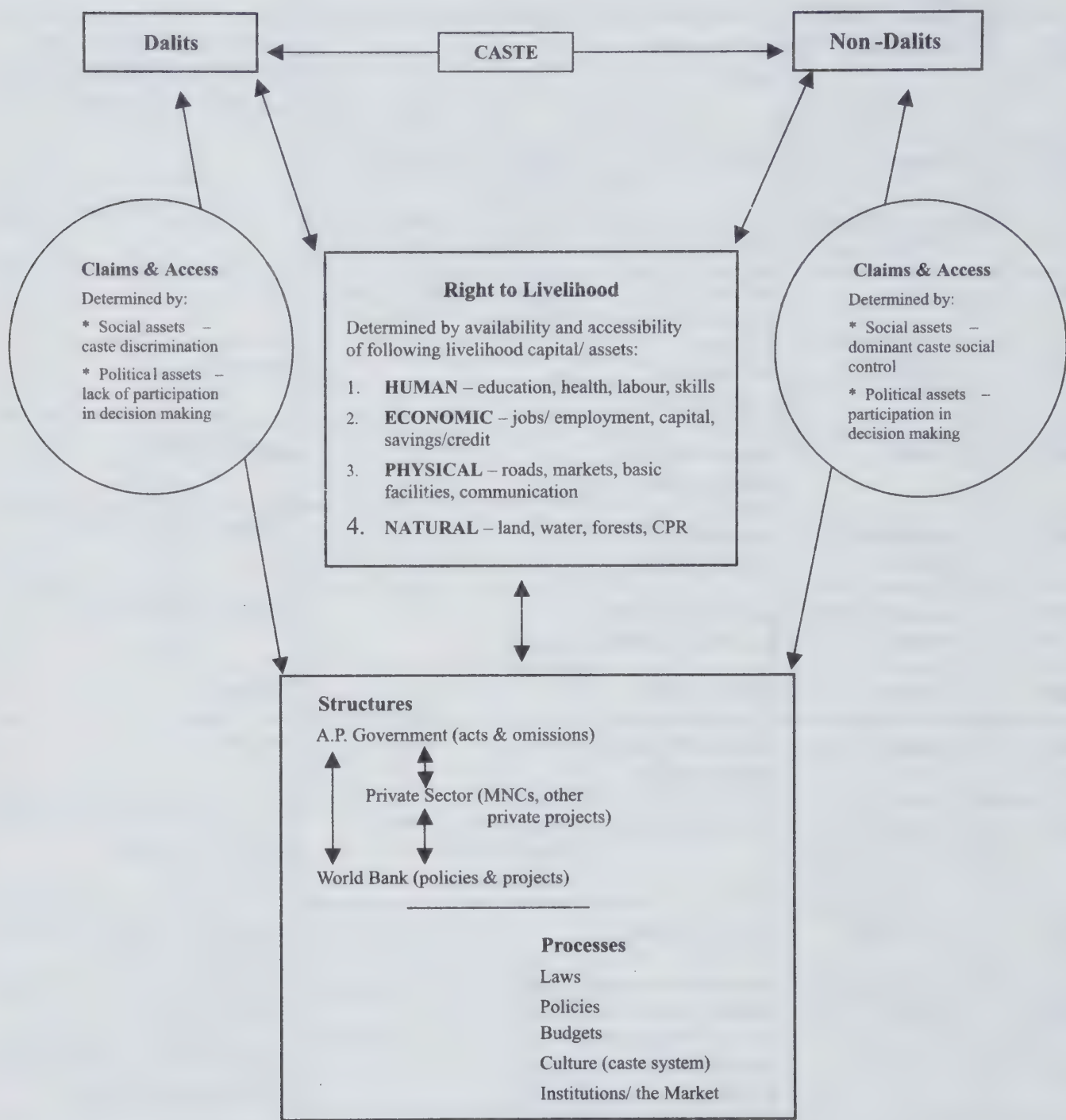
- † In 1994, a NCAER/ HDI Survey revealed that 66.7 percent of villages with a majority Dalit population in the state lacked access to a health sub-centre or hospital within 5 km of the village, as compared to 52.2 percent for villages in general.
- † The serious repercussions of lack of access to healthcare facilities for Dalits is seen in the high infant and under-5 mortality rates, the latter rate having increased during the period 1992-93 to 1998-99 from 114.8 to 122.4. By contrast, non-SCs/STs have experienced declining infant and under-5 mortality rates during the same period, the latter rate being 79.0 in 1998-99, indicating better health levels and better access to healthcare.⁴⁰
- † Dalit women and children have lower health levels than their non-SC/ST counterparts. Whereas in 1992-93 a lesser percentage of non-SC/ST children were underweight ($-3SD$ and $-2SD$) than Dalit children, by 1998-99 this percentage had sharply decreased as compared to the slower declining percentage for Dalit children.
- † Similarly, in 1998-99 the mean body mass index (BMI) for Dalit women was 19.4 as compared to 20.8 for non-SC/ST women. In addition to having a poorer mean BMI, a greater percentage of Dalit women (44.8 percent) than non-SC/ST women (35.0 percent) were below the healthy BMI, indicating their poorer nutritional status. Dalit women's poorer health status was also confirmed by the greater percentage of Dalit women (34.2 percent) as compared to non-SC/ST women (16.7 percent) with moderate to severe anaemia.⁴¹

Main Differentiation between Dalit and non-Dalit Livelihood Activities

Self-Employed/ Salaried/ Waged	Main Livelihood Capital Required	Primary Livelihood Source/ Form	Dalits	Non-Dalits
waged	human	labour strength	agricultural labourer	agricultural labourer (mostly lower BCs)
waged	human	fodder from own lands/ CPR	livestock herder	livestock herder (mostly lower BCs)
waged	human	labour strength	quarry worker	quarry worker (lower BCs)
waged	human	labour strength	construction worker	construction worker (lower BCs)
waged	human	labour strength	earthworks worker	earthworks worker (lower BCs)
waged	human	labour strength	brick maker	brick maker (lower BCs)
waged	human	labour strength	service industry	service industry (lower BCs)
waged	human	labour strength	scavenger and sweeper	—
waged	human	labour strength	lorry loader in markets	lorry loader in markets (BCs)
waged	human	labour skills	driver	driver (mostly BCs)
self	natural	land	marginal and small cultivator	medium to large cultivator
self	natural	fodder from own lands/ CPR	livestock herder (more small ruminant)	livestock herder (more buffalo/ cows/ sheep)
self	human	forests	food produce/firewood/ other produce gathering	food produce/ firewood/ minor forest produce gathering (Adivasis)
self	human	natural resources/CPR	—	fisher (BCs)
self	economic	livestock assets	milk vendor	milk vendor
self	human	trading	petty trader in agricultural produce (buy only from Dalit colony)	—
self	economic	trading	—	trader in agricultural produce (middlemen)
self	economic	trading	petty trader in non- agricultural produce (small trade only)	petty trader in non- agricultural produce (small trade done by BCs)
self	economic	trading	—	trader in non-agricultural produce (larger scale)
self	economic	financial capital	—	food production unit owner/ manager

self	economic	financial capital	—	dealer in agricultural/ aquaculture inputs
self	human	labour strength	—	stone cutter/ breaker (BCs)
self	economic & human	labour skills	—	mason (BCs)
self	economic	land/financial capital	—	earthworks/ brick kiln/ quarry/ construction work supervisor or owner
self	human	forests/ CPR	collecting firewood for funerals	—
self	human	labour strength	protecting water sources	—
self	human	raw material & artisan skills	leather worker – tanner, cobbler	—
self	human	raw material & artisan skills	—	potter (BCs)
self	human	raw material & artisan skills	—	weaver (BCs)
self	economic & human	raw material & artisan skills	—	basket weaver (BCs)
self	economic & human	natural resources & labour skills	—	toddy tapper (BCs)
self	human	labour skills	—	barber
self	human	raw material & labour skills	—	carpenter
self	human	physical assets	transporter (bullock carts/ cycle rickshaws)	transporter (bullock carts/ cycle rickshaws) – lower BCs
self	economic	physical assets	—	transporter (trucks/ lorries/ auto rickshaws)
self	human	labour strength	—	dhobi/ washer
self	economic	raw material & human	—	liquor/ arrack distiller/seller processing-selling
self	economic	raw material & labour skills	—	blacksmiths
self	economic	labour skills	—	goldsmiths (mostly OCs)
self	human	labour skills	—	entertainer
self	human	—	village servant	—
self	human	assigned due to caste	—	temple priests (OCs)

Broad Framework for Assessing
Dalit Livelihood Rights : Determining Factors



Why the Need for a Dalit Perspective to Livelihoods?

A decade into the globalisation-driven economic reforms and the facts indicate a declining livelihood status among Andhra Pradesh Dalits across key socio-economic rights. Caste discrimination remains a key factor that continues to deny Dalits access to resources and opportunities for socio-economic development, leading to their lower levels of livelihood capitals as compared to other social groups.⁴² Therefore, bearing in mind that equality in dignity and rights implies an absence of poverty and discrimination, which is the key goal of most livelihood development strategies, it is essential that those involved in livelihood development processes understand the need and begin to analyse globalisation-induced projects and programmes from a Dalit perspective. This applies to the Andhra Pradesh Government through its Vision 2020 and other economic policies, to international development cooperation agencies, international funding agencies, human rights and other organisations working to secure sustainable livelihoods.

A Dalit perspective to livelihoods entails factoring in social exclusion through caste discrimination into assessment of the potential impacts of policies, programmes and projects on particularly Dalits and lower caste-class groups. This factor has been missing from most attempts so far to assess the impact of globalisation driven projects on livelihoods. A more holistic picture of livelihoods in a caste society emerges if one examines caste predication of access to benefits and opportunities, which pinpoints where greater emphasis needs to be laid to bring these communities into the process of development.

Why the need for this emphasis in the broader human rights and development movement? This is because an economic policy that is based on full-cost accounting, which incorporates social and environmental costs and benefits, needs to place special attention on transforming structures that perpetuate inequality, injustice and intolerance, including caste and gender-bias systems. Otherwise, without explicit recognition that Dalit empowerment, that women's empowerment is central to achievement of broad-based socio-economic goals, these social groups will remain excluded from the process of development. Moreover, without adequate investment in these social groups as well as capital, they are at risk of being further exploited in the new institutions that emerge.

Rooting out caste discrimination and inequality can go a long way towards guaranteeing Dalits freedom to develop secure livelihoods that promote their human dignity and worth in Andhra Pradesh society. In addition, the economic benefits that would potentially flow from securing socio-economic development for Dalits could see Andhra Pradesh finally secure steady equitable economic development for all sections of its citizens. This would boost economic growth for the state as a whole.

Against this background and context, this study seeks to evaluate the phenomenon of globalisation and its impact on the livelihoods of the marginalised, pauperised and hence socio-economically vulnerable Dalits from a human rights perspective, one that takes the Dalit well-being and livelihood security as a broad-based central goal over economic imperatives. With the Supreme Court of India deeming the right to livelihood as part of right to life under *Article 21 Indian Constitution*, this assumes great significance for the Dalits as a community that has the least livelihood security of rural communities in Andhra Pradesh.

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40. National Family Health Survey 1992-93 (NFHS-1) & 1998-99 (NFHS-2).
41. Ibid.
42. See findings in S. Mahendra Dev et al, Centre for Economic and Social Studies, *Baseline Survey Report in Sustainable Livelihood Framework*, prepared for Andhra Pradesh District Poverty Initiatives Project (APDPIP), 2002, Hyderabad, Chapter 4, at p.23.

Chapter 1

Study Objectives, Scope and Methodology

Currently Dalits experience socio-economic unfreedom, which is perpetuated by practices of untouchability, caste discrimination and social exclusion. Given this factor, the benefits of current globalisation-driven schemes of trade liberalisation and privatisation do not 'trickle down' to the Dalit community, but instead remain in the hands of vested - dominant caste - interests. This is because in a socially unequal society such as Andhra Pradesh society, ascribed caste [and gender] identities inform freedom of choice and access to resources, opportunities and participation in livelihood building activities. The result is that current globalisation processes reinforce or exacerbate, and not alleviate, violations of Dalits' livelihood rights.

Study Objectives

1. To examine the concept and context of globalisation in a socially unequal, caste-based society such as Andhra Pradesh from a human rights perspective.
2. To broadly review the scope and implementation of the Andhra Pradesh Government's Vision 2020 policy introduced in 1999, after Andhra Pradesh became the first Indian state to implement a structural adjustment policy reform programme dictated by the World Bank.
3. To highlight the changing extent of denial of Dalit livelihood rights vis-à-vis non-Dalits in Andhra Pradesh since the introduction of broad economic reforms policies post-1991.
4. To study the link between globalisation processes and continuing social discrimination on the basis of caste, which combine to accentuate denial of livelihood rights to the Dalit community in the state.

5. To measure the current status of Dalits' right to livelihood against national and international legal human rights standards.
6. To suggest methods and action to halt the further disenfranchisement of Dalits and secure their right to livelihood.
7. To encourage a paradigm shift in the development policy of the Andhra Pradesh Government away from the current pro-globalisation policy driven by macro-economic imperatives towards one that respects and incorporates Dalit and other poor and marginalised people's right to sustainable livelihoods and development.

Scope of Study

1. This study focuses on the right to livelihood of Dalits in rural areas of Andhra Pradesh for the following reasons:
 - The majority of Dalits in Andhra Pradesh live in rural areas of the state. Moreover, rural poverty is mainly attributed to lack of full and continuous employment, low wages and landlessness, which is found particularly among rural Dalit households.
 - Rural ascribed livelihood activities of Dalits are clearly demarcated under the caste system.
 - The livelihood activities and resources of Dalits in rural and urban areas are quite different, and each deserves separate in-depth research. Within the limited timeframe for this study, a focus on the changing status of rural Dalit livelihoods is necessary as many studies so far have tended to focus on globalisation and its impacts on urban livelihoods.
2. Within the right to livelihood, focus is on Dalits in the agricultural sector, as this is where the majority of Dalits are concentrated as either landless agricultural labourers or marginal cultivators. Moreover, as agriculture is touted by the Andhra Pradesh Government through its Vision 2020 policy as one of three key areas for growth, it merits specific inquiry to see how these globalisation-driven policy goals match up to the Dalit reality vis-à-vis livelihood rights. In this respect, three specific areas which are promoted through Vision 2020 as key growth areas form the basis for the case studies:

- (i) aquaculture;
 - (ii) contract farming and minor irrigation; and
 - (iii) watersheds.
3. A comparison is made between the livelihood status of Dalits as opposed to non-Dalits, taking the untouchability line as the dividing line between a socially outcast community and the rest of the village communities. Given the small sample size of 140 households, and the hypothesis that caste discrimination is an important factor that differentiates Dalit livelihoods from that of all other communities, this division is maintained throughout the report.¹
 4. An assessment is made in the three case studies of the differential impacts, both positive and negative, on Dalits and non-Dalits vis-à-vis key livelihood indicators: *availability* and *accessibility* to land, labour/employment, wages, savings and credit, assets, basic amenities, food security and education.
 - The principle of *availability* is assessed in terms of a livelihood capital being physically available in sufficient quantity.
 - The principle of *accessibility* is assessed in terms of non-discrimination, economic accessibility and physical accessibility.

Timeframe for Study

This study examines the changing status of Dalit vis-à-vis non-Dalit livelihood rights since the particular globalisation process was introduced, to assess its impact on the Dalit community in particular. The key timeframe for primary data collection through questionnaires is the period 1990 to 2003. While it was hard for households to recall livelihood status levels in 1990 with exact precision, this factor was taken into account and hence the questionnaire represents broad trends in changing livelihood capital levels over the decade of the 1990s.

Methodology

Given the small sample size for this study – (i) two watersheds; (ii) one village affected by contract farming and four villages by minor irrigation schemes; and (iii) one village by aquaculture – the study utilised a case study method, backed by a primary data questionnaire and secondary data. A limited number of questionnaires

were administered, totalling 140 across all three case studies, random sampling being utilised to cover the requisite number of households. Though limiting the conclusions that can be drawn from the data, a small sample size was chosen to provide a broad glimpse of livelihood status changes across Dalit and non-Dalit categories.

1. Secondary Data -

Andhra Pradesh Government policies and statistical data on status of Dalit vis-à-vis non-Dalit livelihood rights pre- and post- 1991 and post-introduction of the particular globalisation project.

2. Primary Data -

A simple, close-ended questionnaire for collection of field level data at the household level on the changing status of key livelihood rights: labour and employment, wages and migration, land, access to common property resources, physical asset holdings, basic amenities, food security, health, savings and credit, education, skills trainings and participation in local panchayats and village committees. The questionnaire was administered to both Dalit and non-Dalit households, collecting data in 1991 and in 2003, pre- and post- introduction of the particular globalisation project in the area.

3. Interviews –

- (i) Open-ended interview questions designed to elucidate qualitative information about the positive and negative impacts of the globalisation project on Dalit vis-à-vis non- Dalit livelihood rights in the area. Interviews were conducted across castes and communities, to ensure a balanced understanding of different communities' perceptions of the globalisation project and its benefits;
- (ii) Looking at specific forms of Dalit livelihood rights denial, such as denial of economic opportunities, appropriation of land, displacement from labour, etc. based on the questionnaire schedule and probing the changes as perceived by Dalits, the reasons/ causal factors for the rights denials, their coping mechanisms, how they assess the impact of the globalisation project vis-à-vis their community and vis-à-vis non-Dalits; and
- (iii) Linking caste discrimination, untouchability practices and atrocities with denial of Dalits' livelihood (socio-economic)

rights; how caste discrimination is used in globalisation projects as a tool to perpetuate exploitative economic arrangements.

Study Coverage

Fieldwork was carried out during the months of April to May 2003. A total of 13 villages were covered in the three case studies, with at least 50 percent of Dalits covered for the primary data questionnaire. Gender representation was sought as much as possible for the questionnaire respondents, though the random sampling of households meant that this could not be always adhered to. A total of 28 group and individual interviews were conducted across all major caste-community groups found in the villages and who had been affected or involved in the globalisation driven projects.

Coverage of Primary Data Questionnaire

Case Study	Respondents							No. of Villages
	Male	Female	SC	ST	BC	OC	Muslim	
Watersheds	20 (50%)	20 (50%)	20 (50%)	5 (13%)	9 (22%)	5 (13%)	1 (2%)	7
Contract Farming	32 (64%)	18 (36%)	25 (50%)	3 (6%)	15 (30%)	6 (12%)	1 (2%)	5
Aquaculture	34 (68%)	16 (32%)	30 (60%)	0	14 (28%)	6 (12%)	0	1
Total	86 (61%)	54 (39%)	75 (54%)	8 (6%)	38 (27%)	17 (12%)	2 (1%)	13

Coverage of Individual and Group Interviews

Case Study	SC	ST	BC	OC	No. of Villages
Watersheds	5	1	3	3	7
Contract Farming	4	1	3	2	5
Aquaculture	3	-	2	1	1
Total	12 (43%)	2 (7%)	8 (29%)	6 (21%)	13

Purpose of Study

It is envisaged that this study will be utilised at three levels:

1. At the *local Mandal level* (adapted translation into Telugu), to equip mandal-level Dalit leaders and organisers with knowledge about the globalisation process and its impact on Dalit livelihoods, which they can in turn translate into an appropriate medium for dissemination at the grassroots level.
2. At the *State level*, to lobby the Andhra Pradesh Government to modify its economic policy to ensure that the livelihood rights of socio-economically disadvantaged groups such as Dalits are respected and guaranteed as a priority goal.
3. At the *International level*, to provide a situational analysis for international development cooperation agencies, funding agencies and international human rights mechanisms such as the UN Sub-Commission on the Protection and Promotion of Human Rights, the Committee on the Elimination of Racial Discrimination, the Committee on Economic, Social and Cultural Rights and the Special Rapporteur on Contemporary Forms of Racism on the linkages between current globalisation processes and caste discrimination in exacerbating denial of Dalits' livelihood rights.

Endnotes

1. Note that for the purpose of this study, the broad category of non-Dalits is utilised which encompasses both forward and backward castes, as well as minority groups such as Muslims and Adivasis. Wherever the term dominant castes is utilised, it refers to those castes – forward and some so-called 'upper' backward castes – who tend to dominate village life and exercise dominance over Dalits in particular.

Chapter 2

Dalit Livelihoods Swept away by the Blue Revolution

“The development of the fisheries sector will create considerable impact, particularly by providing livelihoods for the poor”

Vision 2020, Andhra Pradesh Government

Introduction to Andhra Pradesh Government's vision for Aquaculture

Part I Aquaculture Development and Background to Nidamarru village

- Aquaculture development in Nidamarru village
- Socio-economic and political background to Nidamarru village

Part II Impacts on Livelihoods: Benefits and Detriments

I. Right to Labour and Employment

- Emerging new occupations; occupational changes; effects on agricultural labourers and cultivators; changes to annual workdays; shifting migration patterns

II. Changes to Natural Capital

- Land ownership patterns; shifting land markets; status of access to common property resources

III. Physical Capital

- Status of ownership of livestock, agricultural equipment, modes of transportation and household goods

IV. Economic Capital: Savings and Loans

- Savings and loans; access to credit market

V. Human Capital

- Education levels; government skills trainings; health and food security

VI. Social Changes in Caste Relations

Part III Overview Analysis: Human Rights Perspective

- Summary of key impacts of project, particularly on rights to work, health and sustainable development and livelihoods
- Main recommendations

Commercial aquaculture was introduced along the 974 km coastline of Andhra Pradesh in the early 1980s. A decade later the World Bank came into the picture, pouring funds to the tune of US\$ 22 million into Andhra Pradesh alone out of the US\$ 96.8 million earmarked for an Indian aquaculture project. Broad promises were made that aquaculture would create employment opportunities for 2 million rural people living in brackish water areas extending over 1 million hectares (2.47 million acres) and begin a 'blue revolution.' While most fish-culture in the state is still destined for domestic markets, the advent of the new economic reforms from 1991 heralded an expansion in the market for shrimp as a foreign exchange earner.

The state accordingly increased nine-fold its area under freshwater and brackish water shrimp/ prawn culture during the 1990s, from approximately 15,000 acres in 1990-91 to 222,000 acres by 2000-2001.¹ While the corporate sector and big entrepreneurs were invited to invest in large-scale shrimp culture operations along the coastline, smaller landowners and entrepreneurs quickly seized opportunities to likewise reap benefits of semi-intensive and intensive shrimp culture further inland. This has led to wide-scale land encroachments and illegal conversion of lands into ponds, poorly regulated aquaculture operations making the true extent of aquaculture probably much more.

Vision 2020: Taking the Lead in Fisheries

Fisheries has been identified by the Andhra Pradesh Government in its Vision 2020 policy as one of the six potential economic growth engines in the agricultural sector. In line with the strategy to develop agriculture, the State is set to undertake the following initiatives to achieve its goal of quadrupling fish/ shrimp production to over 1 million tonnes per year by the year 2020:

1. Develop the fisheries value chain and boost exports.
2. Create and promote investment in infrastructure to support the Development of fisheries.
3. Ensure the setting up of institutions to build skills.
4. Ensure sustainable development.
5. Promote the welfare of the state's fishing community through investments in housing, education and health.

Brackish water fisheries are to be promoted through the introduction of new management technologies and development of alternative species. The government will pursue the formation of a Brackish Water Users' Association that can invest in and take control of water bodies, lake drainage systems, power and road connections, charging users appropriately. The government's response to inadequate regulation is to propose the formation of aqua clubs to ensure 'pollution free and environmentally friendly aquaculture', while incentives are offered to treat aquaculture on par with agriculture for giving concessional power tariffs, exemption from additional taxes and centralised supply of inputs. These ambitious goals would allegedly see brackish water shrimp production almost double to 80,000 tonnes across the nine coastal states of Andhra Pradesh by 2003-2004.²

Notably, while mention is made of welfare provisions for the state's fishing community, particularly in terms of housing, education and health, no mention is made of ensuring that the fishing community or other weaker sections, particularly marginalised Dalits and Adivasis, are a focus for fisheries development initiatives. Both in terms of access to resources and capacitation to enter into productive aquaculture, the government falls silent as to exactly how boosting productivity of the fisheries sector will aid the livelihoods of resource-poor communities such as Dalits.

Already there is mounting proof that the government's goal to develop fisheries to provide livelihoods for the poor has not been realised with a decade of aquaculture development. The stated incentives for increasing production in Vision 2020, if backed by regulatory measures and support services to ensure environmental sustainability of aquaculture development, may then be seized only by those few with land and capital to invest in aqua farms. But the question that must be asked is, at whose cost in terms of livelihoods?

Aquaculture development in Nidamarru Village

Nidamarru village in Nidamarru mandal of West Godavari district lies within 15 km of Kolleru lake, one of the largest freshwater lakes in Andhra Pradesh and a declared bird sanctuary and protected area. The region witnessed the introduction of wide-scale freshwater fish aquaculture in 1990-1991. An estimated 30,000 acres of largely village patta lands and forest lands, including some sanctuary lands,

have since been legally and illegally converted into aqua ponds within the vicinity of the sanctuary and surrounding areas. By 1995, the high profit incentives of shrimp culture spread in the region, with many farmers moving from fish to shrimp culture. West Godavari district now stands second after Krishna district in terms of the number of shrimp farms and land under shrimp culture, being 14,753 farms with an extent of 34,630 acres of land by 1996.³ Aquaculture has since continued to grow in the Kolleru lake region.

The year 2002 alone saw an estimated 600 acres of ponds created on the Nidamarru side of Kolleru, 150 acres of which are shrimp farms. And according to locals, a further 400 acres are in the process of conversion into aqua ponds.

Nidamarru village today lies surrounded by 250 acres of shrimp farms and 1,000 acres of fish farms spread across village patta lands of both Nidamarru and the neighbouring revenue village of Venkatapuram. The remaining 1,400 acres of land in Nidamarru continue to be agricultural lands, while common property resources in the village consist of a shrinking reserve of revenue wastelands and a village pond.

Socio-Economic and Political Background to Study Village

Nidamarru village is a revenue village as well as the panchayat and mandal headquarters, with a total population of approximately 5,000 people or 1,300 families. Dalit families (Mala, Madiga) number around 150 (11 percent of village population), backward caste families (Thurpu Kapu, Mangali (barbers), Yadava (shepherds/ cowherds), Kummari (potters), Chakali (washers), Uppara/ Vaddera (earthworkers)) around 500 (38 percent), forward caste families (Kapu, Raju) around 650 (50 percent) and there is one Adivasi family (0.08 percent).

Dalits live in two separated colonies, one for Madigas and one for Malas. Housing standards and access to basic amenities remain lower among Dalit households as compared to non-Dalit households, indicating poorer standards of living in Dalit localities. Dwelling security is an issue for Dalit Madigas. Repeated requests over the past three decades to the district administration for the grant of house site *pattas* for roadside land they have occupied having fallen on deaf ears. For other communities, including the

Dalit Mala community, almost all own ancestral house sites in the village or have bought their sites.

Otherwise, the main difference in housing appears in terms of the type of habitation constructed, with only five Dalit houses (17 percent) being standard *pucca* housing, as compared to 13 non-Dalits' houses (65 percent). Moreover, only 13 out of 30 Dalit households (43 percent) as compared to 16 out of 20 non-Dalit households (80 percent) have lighting in their houses. The status of household toilet facilities stands much lower, with only two Dalit houses (6 percent) as compared to 12 non-Dalit houses (60 percent) having this facility. Most Dalits defecate in the surrounding fields, though an illegal dry latrine exists in the Dalit Mala locality which the panchayat pays to be cleaned by a manual scavenger from a neighbouring village. Unequal distribution of potable water facilities was also observed, with only two out of 30 Dalit households (6 percent) having separate water connections as opposed to 11 out of 20 non-Dalit households (55 percent).

Already in 1990 there was a clear distinction between Dalits and non-Dalits in terms of livelihood occupations, the majority of Dalits being landless, waged seasonal agricultural labourers working in the lands of the dominant forward castes. As a consequence, waged labour force participation was high among both men and women of working age, with only elders, the sick and children under 10 to 12 years of age remaining at home. By contrast, the majority of non-Dalits were landowners – cultivators, with mostly only 'lower' backward castes engaged in waged agricultural labour. Though the survey revealed 89 percent of Dalit households and 50 percent of non-Dalit households counting agricultural labour as their primary occupation, the overall picture revealed through interviews was that the majority of non-Dalits in the village tended towards self-employed occupations in both agriculture and allied activities. Agricultural labour as a primary occupation accounted for just 20 to 25 percent of non-Dalit households in the village.

Job security in employment was thus higher among non-Dalits engaged in agriculture, who were able to secure greater annual workdays and hence higher income than Dalits in both waged and non-waged agriculture. The result was that outside of agricultural

labour, non-Dalits engaged in no other waged occupations, unlike four Dalit families who were also engaged in waged earthworks labour. Three Dalit families also supplemented their income through agricultural labour, four families through minor cultivation, three herded cattle for themselves, one was a milk vendor and one a petty trader in agricultural produce.

Lesser employment diversification existed among non-Dalits as compared to Dalits in 1990, given their generally greater number of workdays in particularly agriculture-related occupations. Hence, only one non-Dalit family supplemented their main livelihood through agricultural labour and one through cultivation, both for only two months in a year. Otherwise, three non-Dalit families were also milk vendors throughout the year.

In terms of socio-political assets, much progress has been made in the abolition of visible untouchability practices in the village, with the Dalit Mahasabha movement prominent in the area during the late 1980s to mid-1990s. Dalit assertiveness encouraged certain changes in social arrangements, such as the abolition of separate drinking water sources for Dalit field labourers, separate seating arrangements while eating in the fields and separate voting queues for Dalits and non-Dalits. However, when it comes to access to vital resources such as land, discrimination continues. The majority of revenue wastelands are debarred from access by Dalits, as are the village temple lands which non-Dalits solely have knowledge about.

Dalit participation in local governance remains low, with only one Dalit ward member out of 12 members in the panchayat. While in general all community members vote in the panchayat elections, Dalits have little say in local governance and where the panchayat funds for village works should be spent, especially as regards vital drinking water resources. Though two Dalit men sit on the Village Development Committee, notably no Dalits are members of the Water Users' Association, which controls local irrigation systems and distribution of water in the village. Thus any say over regulation of this vital resource, especially in the context of growing numbers of aqua ponds in the area, lies solely in the control of particularly the forward castes. Instead, four Dalits are members of the Education

Committee and all Dalit women are members of the Mothers' Committee that oversees the functioning of the *anganwadi*, though the President is a non-Dalit woman.

Impacts on Livelihoods: Benefits and Detriments

I. Work Rights and Occupational Changes

Emergence of Aqua Operators and Allied Occupations

Given the large amount of capital investment required for shrimp culture - currently around Rs.100,000 to Rs.150,000 per acre per crop - it is only the dominant caste Kapus and Thurpu Kapus who have sufficient financial capital and investment capabilities to engage in this form of aquaculture, either on their own lands or leased-in lands. According to the panchayat records 52 dominant caste families operate a total of 250 acres of shrimp ponds in the village. As there is a proportionate increase in investment and risk involved for farms ranging over 2 acres, most form partnerships with other dominant castes to operate larger farms. For those not operating the ponds, little information is known about the partnerships and who operates what extent of ponds. What is known is that two dominant caste Rajus from outside the village have formed companies to lease in village lands and operate a large extent of ponds in the village.

Notably, all aqua ponds in the village remain registered as agricultural lands, thus evading any additional tax levies for aquaculture and falling outside official records of lands converted to aquaculture. This is an open secret, with Fisheries Department officials regularly visiting the village to monitor aquaculture operations and give suggestions to the aqua farmers.

Shrimp farming inputs – seedlings, feed, chemicals and antibiotics - are purchased from dealers in the neighbouring towns of Narayanapuram and Ganapavaram. Mostly local dominant caste business people have moved into this lucrative trade, annual profit turnovers for the dealers running up to Rs.10 million. Annual inputs costs have risen by 10 percent in the past five to six years, every three months requiring an investment of Rs.100,000 to Rs.150,000 per acre of shrimp culture with an annual rate of four crops. Balancing this, shrimp farming profits run to around Rs.200,000 to Rs.300,000

per acre, if the shrimp crop is successful, a substantial increase in income over agriculture for most aqua farmers. Those interviewed suggested a pattern of success and failure in shrimp crops emerging in the ponds particularly in the last two to three years, but what was clearly seen is an overall increase in income and visibly more affluent lifestyle due to the shift to shrimp culture.

As with aquaculture farm operations themselves, new occupations of aquaculture *mestries* and labour contractors have also been seized by non-Dalits. All aquaculture *mestries* are forward castes, while the dozen or so aquaculture labour contractors appear to come from each community, but with one Dalit contractor to call Dalit labourers to work in the ponds as compared to 10 to 12 backward and forward caste contractors. Moreover, the ability of the Dalit contractor to secure labour to earn a living is hindered by his relative inability to provide some initial amount of money to bring labourers into the ponds for work, a problem that is not faced by non-Dalit contractors. Further, only the Dalit contractor in effect works under the other non-Dalit contractors, limiting his ability to bring many Dalits into the aqua ponds for work.

In 2001 around 1,200 acres of reserved forest lands in the Kolleru sanctuary vicinity were illegally converted into aqua ponds by forward caste Rajus. The enormity of this illegal conversion came to the public notice and widespread protests were recorded in 2002, forcing the Andhra Pradesh Government to act. The Forest Department, which has jurisdiction over the said lands, was given explicit instructions to file cases against the encroachers. However, what the forest rangers instead chose to do was to approach the dominant caste encroachers and discuss a simple way out of this situation. As a result, the encroachers have paid six Dalits in Nidamaru substantial amounts of money so that the Dalits accept false cases filed against them, saying that the Dalits have been the ones encroaching upon the forest lands and illegally converting them into aqua ponds. These false cases are now pending before the courts, with the forward caste encroachers footing all the court expenses. Meanwhile, the cases being sub-judice, no one can lay claim to the forest lands. The matter has thus died down from public view and the Government can sit back, saying it has taken action over the issue. However, illegal aquaculture on the 1,200 acres of forest lands continues to reap lakhs of rupees for the forward castes.

Effect on Agricultural Labourers

For Dalits, none of whom have the financial investment capabilities or access to resources to operate aqua farms, the advent of aquaculture has wrought significant changes in their ability to secure their right to work and adequate employment, rather than any change in their main occupations as such. The limited availability of waged work in aquaculture, combined with the limited extent of agricultural lands for the large Dalit and backward caste agricultural labour population in Nidamaru, leaves a substantial number of Dalit agricultural labourers bereft of sufficient workdays to secure a livelihood income.

Prior to aquaculture, all agricultural fields were under paddy cultivation, with 10 to 15 agricultural labourers regularly employed per acre of crop. The number of agricultural workdays within the village stood at around 60 days per year, or 30 days per crop, with a further 120 workdays available in the fields of nearby villages for most Dalits. The average workday spanned from 9:00 a.m. till 4:00 p.m., with meals provided by the landowner. Daily wage rates varied from Rs.30 to Rs.40 per day for men, with gender discrimination in wages widely practised, women's wages placed at Rs.20 to Rs.35 per day.

On the commencement of aquaculture, Dalit and lower backward caste labourers were in high demand to dig the ponds and strengthen the pond bunds, which involved hard manual labour for around 250 labourers per pond. Wages rose as high as Rs. 150 per day, including meals, as dominant castes rushed to cash in on aquaculture. Up till 2001 this remained the case as aquaculture spread throughout the region, but with the introduction of earthmovers in 2001 this work has all but ceased. There are currently six earthmovers in the area, operated by non-locals, which now clean the canals during the daytime and dig ponds or clean out ponds at night.

Once fish culture sprang up in the region, many non-locals from neighbouring East Godavari district descended on the village to work in the ponds. As many locals were not willing to stay by the ponds and work 24 hours per day to guard the ponds, one outside family got full-time work overseeing an average 10-acre extent of fish ponds. Workdays in the ponds at harvesting time and cleaning of

the ponds amounts to around 10 days on average for the local agricultural labourers, with men being paid Rs.50 per day and women Rs.40 per day for work from 6:00 a.m. to 12:00 noon. Any extra working time of two to three hours earns labourers a further Rs.25 per day. However, with fish harvesting done once in six months and cleaning of the ponds and canals following the harvest, only around 50 people are required to undertake this work per 10-acre fish farm operated.

Work patterns further underwent change on the onset of shrimp culture, with prawn harvesting and pond cleaning taking place once in three months, with a break of 15 to 30 days prior to releasing a new batch of shrimp seedlings into the ponds. Those agricultural labourers now employed in the ponds work an average of 10 days per year. Some shrimp pond owners pay both men and women equal wages of Rs.50 per day for work from 6:00 or 7:00 a.m. till 12:00 noon, while others still discriminate with men receiving Rs.50 and women Rs.45 per day. Harvesting in the shrimp ponds requires one or two days at the most per acre, with 40 to 50 labourers able to do this work per 10-acre shrimp farm. There is no discrimination as such in terms of work allocation, due to the limited labour supply required in the ponds. However, intensive aqua farming has again brought about the replacement of manual labour with machinery. Slowly, shrimp feeding and pond drainage and refilling are being done using motorboats and diesel engines, displacing an average of 19 manual labourers per pond.

Again, non-locals, particularly from East Godavari district, migrated into the village to assume the full-time positions of watching over the shrimp ponds day and night, changing the water in the ponds, checking on water levels, administering feed, chemicals and antibiotics. One family alone is required per 10-acre extent of shrimp ponds. But as compared to fish ponds, this work in the shrimp ponds requires more work in changing water, feeding and administering antibiotics. Only two or three lower backward caste families from the village have opted for this around-the-clock job, which involves work for eight hours per day and all night watching the shrimp ponds, to be paid as little as Rs.1,600/- per month. The sole positive aspect is that no children below the age of 14 years are found in aquaculture, due to the nature of the work involved.

Agricultural Labour Requirements per 10-acres fields	Aquaculture Labour Requirements per 10-acres ponds
10 persons per acre = 100 persons	1 person full-time + 50 persons
Average annual workdays per person = 60	Average annual workdays per person = 10
Average daily wage = Rs.30 per person	Average daily wage = Rs.45 per person
Total annual workdays available = 6,000	Total annual workdays available = 500
Total annual wages = Rs. 180,000	Total annual wages = Rs. 22,500

At present, most agricultural labourers in the village cite anywhere from a 25 percent up to 50 percent reduction in workdays due to aquaculture, depending on their ability to secure agricultural labour work. The average number of workdays per crop has reduced from 30 workdays to around 12 workdays, with excess labour in the labour market now available to choose from to meet the non-Dalit landowners' cultivation needs. Dalits agricultural labour patterns have thus shifted, spending the 12 days working in the village fields before moving off to surrounding villages for another week of work.

Thereafter many migrate to the neighbouring district for anywhere from two weeks to a month or more to undertake agricultural work. Only around 500 backward caste labourers and a handful of Dalits find semi-regular work in the aqua ponds for the 10 workdays in a year. No Dalit is employed full-time in any aqua ponds. It is at fish or shrimp harvesting times that the need for Dalit labour arises, but even then preference is allegedly given to non-Dalits, particularly traditional backward caste fisher people, some of whom come from outside the village for the harvests.

Given that in each Dalit family an average of two to three persons will be found engaged in waged agricultural labour, some 300 Dalit agricultural labourers are now left to compete for work with backward caste labourers in the remaining agricultural fields, or to move outside the village in search of agricultural work. Within the village discrimination has been observed by the Dalit Madigas, who state that the forward caste landowners they regularly work for in the

fields by their locality are now bringing in backward caste agricultural labourers who used to work for them on lands now converted into aqua ponds. This has reduced the Madigas' annual number of workdays from around four months to around two to three months. What work still lies in Dalits' hands is particularly weeding work, which involves backbreaking labour done mostly by Dalit women. Daily wage rates have increased by around Rs.10, with men receiving Rs.50 per day and women Rs.40 to Rs.45 per day, which barely covers inflation rates in the cost of living over the past decade. With the mass growth of ponds in the entire region the search for work thus becomes a highly competitive exercise and migration a risky venture, leaving many Dalits feeling they have little option but to borrow more money to tide over their families in times of increasing under-employment.

Effect on Cultivators

Most dominant castes cultivate the remaining 1,400 acres of agricultural land in Nidamaru, with only a few Dalits cultivating their own land or leased-in land now. With irrigation canal systems now shared between agriculture and aquaculture, irrigation water has emerged as a great concern for cultivators who are dependent solely on this water source for their crops. Unlike fish farming, which requires effluent water to be released from the fish ponds once in six months after the harvest, shrimp culture requires greater frequency of fresh water input into the ponds. Fresh saline water is required to be pumped into the shrimp ponds once every two days, with high volumes of effluent pond water – saline water mixed with chemicals and antibiotics – released into the surrounding irrigation canals without any checks or notice to the local villagers.

Given this situation, the control of the Water Users Association and hence water systems in the village by the dominant forward castes, who also happen to be the majority landholders and aqua farmers in the village, becomes highly relevant. This is because Dalits are completely excluded from this Association, which furthers their exclusion from control over any vital natural resources in the village and therefore any say over the pond effluents flooding the village water canals.

While decreasing sufficiency of irrigation water due to canal water diversion for aqua ponds cannot be accurately gauged, given that the Kolleru region has also been hit by drought for the past two years, it is one factor commonly acknowledged by all barring the proponents of aquaculture as an outfall of aquaculture. Another complaint uniform across all cultivators is their inability to prevent seepage of saline pond water onto their lands, lowering their soil fertility. Attempts to compensate for this have seen an increase in the use of fertilisers and pesticides.

However, what is most noted by backward caste cultivators is the lowered yield of their second crop. While cultivators can still reap a good yield of 30 to 40 bags of paddy in their first crop, sown after the monsoon when the canals are full and saline-chemical pond water is hence diluted, by the time their second crop is sown the water in the canals is considerably lower. Hence, concentration of shrimp pond effluents is more, lowering paddy yields by 5 to 10 bags. Where cultivable land is located adjacent to the shrimp ponds, the results are more visible, with the average second crop of 25 to 30 bags reduced now to sometimes less than 15 bags.

Livelihood Survey Results

- Whereas in 1990 one Dalit household ran a fish business, now with most irrigation canals diverted to supply water to the aqua ponds and with consequent pollution of the canals from the ponds, this business has died. Instead, the family now solely relies upon agricultural labour to earn their livelihood.
- In terms of primary occupation of the 28 working Dalit households, 24 households (86 percent) now count agricultural labour as their primary occupation and two households (7 percent) cultivation on leased-in land, one household having moved from agricultural labour to cultivation as a main source of income in the past decade. Meanwhile, the remaining two households are engaged in non-agricultural occupations, one Dalit family head being now a village servant securing full-time salaried work throughout the year and one a lorry loader securing three months of waged work per year (*Table 1*).
- Supplementary incomes are now derived from a greater range of mainly waged works - agricultural labour for three households,

lorry loading for one family, earthworks for three families and work in the aqua ponds for four families. Thus, livelihood diversification options for Dalits as a result of aquaculture are pushing them into more casual, low waged labour. Minor self-employment was seen only with one family who still retains a petty trade in agricultural produce for one month in a year, and two families who now engage in livestock herding throughout the year (*Table 2*).

- By contrast, non-Dalits have had greater occupational changes over the past decade, two moving into aquaculture, while still retaining agricultural lands on which to cultivate for the most part of the year. Two non-Dalits have moved out of agricultural labour, one into a petty shop business and one into cultivation on land they now own. In terms of primary occupations, seven non-Dalit households (35 percent) are cultivators and one household engages in aquaculture (5 percent), while nine households (45 percent) are still primarily agricultural labour households. Other non-agricultural occupations for the remaining three households (15 percent) are petty trade in agricultural produce, operating a petty shop and government employment, all full-time occupations (*Table 1*).
- Supplementary employment remains very much less among non-Dalits, suggesting that non-Dalits still retain their ability to secure an adequate income from their primary occupations in 2003.
- Moreover, secondary occupations for non-Dalits remain mostly non-waged work, apart from agricultural labour found among backward caste families. Currently secondary occupations stand at three families engaged in agricultural labour for an average of 80 workdays, one in cultivation the year round and one in aquaculture for an annual 120 workdays. Otherwise, two families remain milk vendors the year round (*Table 2*).

Table 1 Changes to Primary Occupations from 1990 to 2003

Occupation	Waged work/ Self Employed/ Salaried Work	No. of Households practising Occupation				Average Annual No. of Workdays			
		Dalit		Non-Dalit		Dalit		Non-Dalit	
		In 1990	In 2003	In 1990	In 2003	In 1990	In 2003	In 1990	In 2003
Agricultural Labourer	Waged	25	24	11	9	155	120	170	140
Lorry Loader	Waged	—	1	—	—	—	90	—	—
Cultivator	Self	1	2	7	7	155	150	270	250
Aqua Pond Operator	Self	—	—	—	1	—	—	—	300+
Petty Trader (agri. produce)	Self	—	—	1	1	—	—	300+	300+
Petty Trader (non- agri. produce - fish business)	Self	1	—	—	—	300+	—	—	—
Petty Shop Owner	Self	—	—	—	1	—	—	—	300+
Village Servant	Salary	—	1	—	—	—	300+	—	—
Government Employee	Salary	1	—	1	1	300+	—	300+	300+
N/A – Retired/ Too old to work and supported by child	—	2	2	—	—	—	—	—	—

Table 2 Changes to Secondary Occupations from 1990 to 2003

Occupation	Waged work/ Self Employed/ Salaried Work	No. of Households practising Occupation						Average Annual No. of Workdays			
		Dalit		Non-Dalit		Dalit		Non-Dalit		In 1990	In 2003
		In 1990	In 2003	In 1990	In 2003	In 1990	In 2003	In 1990	In 2003		
Agricultural Labourer	Waged	3	3	1	3	150	80	60	80		
Lorry Loader	Waged	—	1	—	—	—	60	—	—		
Earth works Worker	Waged	2	3	—	—	45	30	—	—		
Aqua Pond Worker	Waged	—	4	—	—	—	10	—	—		
Cultivator	Self	4	—	1	1	150	—	60	300+		
Aqua Ponds Operator	Self	—	—	—	1	—	—	—	120		
Petty Trader (agri. produce)	Self	1	1	—	—	30	30	—	—		
Livestock Herder	Self	3	2	—	—	300+	300+	—	—		
Milk Vendor	Salary	1	—	3	2	300+	—	300+	300+		

Decreasing Workdays for Dalit Agricultural Labourers and Cultivators

- The precariousness of Dalits' livelihood occupations can be best observed in the increasing under-employment levels among Dalits as compared to non-Dalits, particularly in their main livelihood occupation of agricultural labour. While in 1990 Dalit agricultural labourers averaged around 150 annual workdays in the dominant castes' fields, by 2003 this average had been reduced to around 90 days. Of the 25 households engaged in agricultural labour both in 1990 and in 2003, 17 agricultural labour households (68 percent) had witnessed a decline in workdays ranging from 30 to 120 annual workdays, with an average of 65 annual workdays lost per household. Seven households (26 percent) had retained the same number of workdays or witnessed only a minor decrease of less than a month in their workdays, and only one household could cite an increase in workdays (*Table 3*).
- For non-Dalit agricultural labourers, their annual workday level of 170 days in 1990 had declined to around 120 workdays by 2003. Ten of the 12 agricultural labour households have witnessed a decrease in annual workdays ranging from 30 to 150 days, with an average loss of 60 workdays per household. Hence, in 2003 non-Dalit agricultural labourers still average at least one extra month's work more than Dalits in the same occupation, indicating slightly lesser livelihood stress levels (*Table 4*).

Table-3 Dalit Agricultural Labourers - Annual Workdays

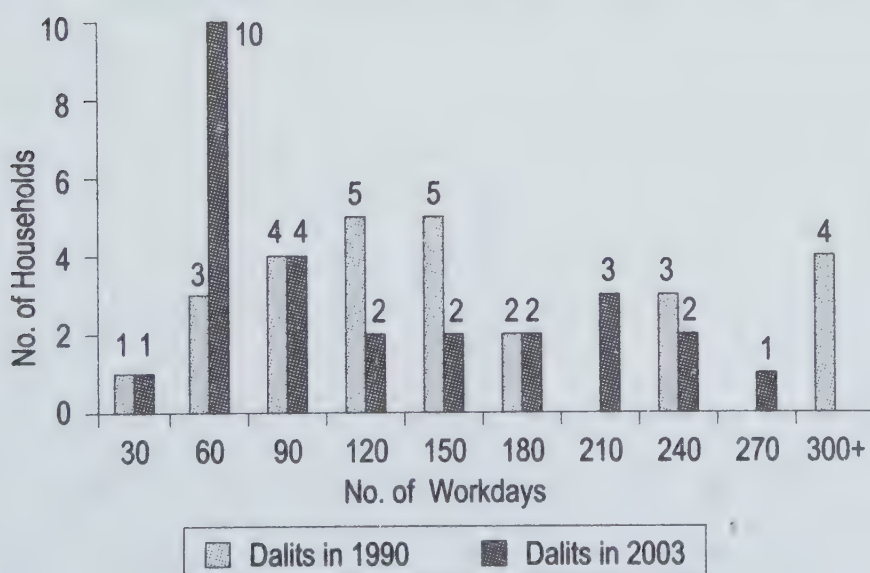
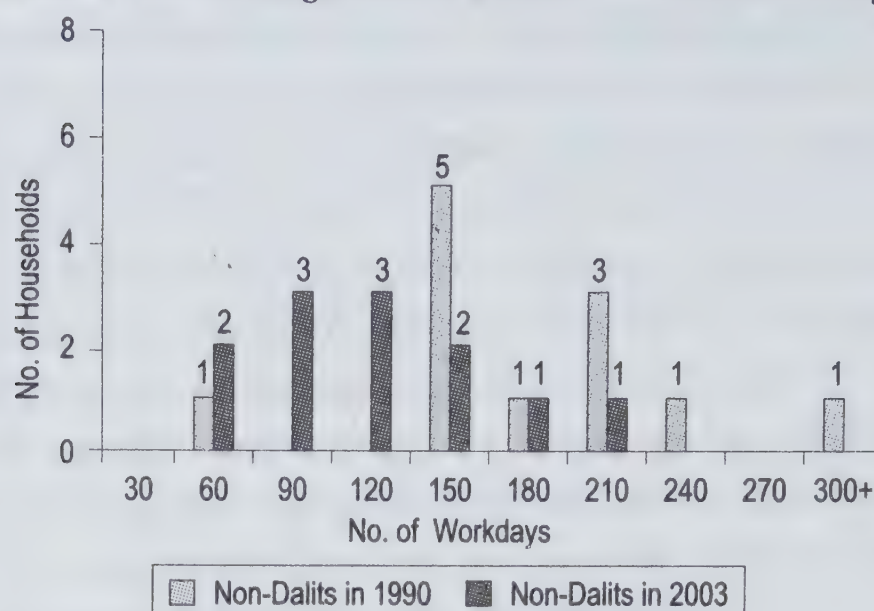
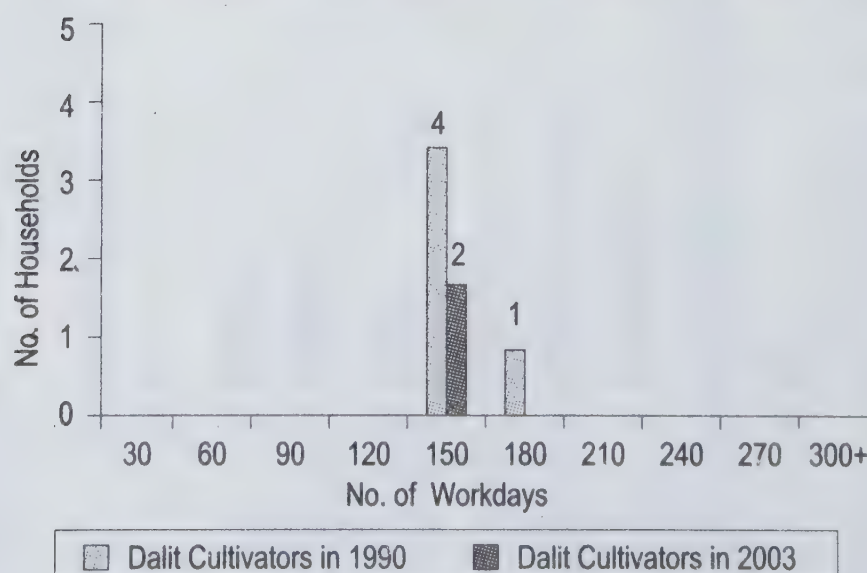


Table-4 Non-Dalit Agricultural Labourers - Annual Workdays

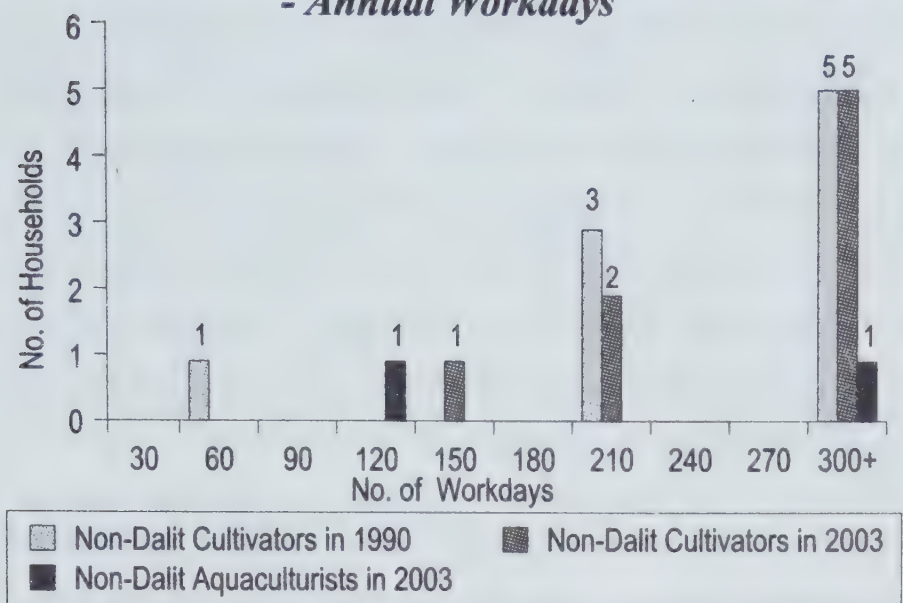


- When it comes to cultivation, annual workdays have not so much decreased for Dalits, as the fact of most moving out of agriculture due to no longer being able to lease in lands or having sold off their small plots of land. Meanwhile, for non-Dalit cultivators, while one household has sold off land and no longer engages in cultivation, for the remaining eight households, seven have witnessed no change in their number of annual workdays, while one household has witnessed an increase of 90 workdays in cultivation. In addition, two of these households have retained both their agricultural lands and expanded into shrimp culture, thereby doubling their source of income (*Tables 5 and 6*).

Table-5 Dalit Cultivators - Annual Workdays



**Table-6 Non-Dalit Cultivators/Aquaculturists
- Annual Workdays**



- For no other primary occupation had there been any great shift in the annual number of workdays, indicating that the brunt of the impact in terms of declining work opportunities caused by aquaculture lies on agricultural workers. Where waged agricultural work is the main livelihood occupation of Dalits, this in effect translates into one section of the village community being a key loser in the process of aquaculture development.

To be also factored into this changing scenario is that the majority of agricultural labourers had previously relied upon firewood collected from trees and bushes on the bunds in the forward castes' fields. However, with aquaculture displacing agricultural labour en masse, the increasing glut in labour demand ensures that women labourers find it increasingly difficult to collect enough wood to fulfil their daily cooking fuel needs, having to search further afield for firewood. Whereas previously women would spend five to seven days per month collecting firewood for their families, this has increased to over a week now. Sometimes inadequate firewood collection forces families to purchase bullock cartloads of firewood at the price of Rs.350 per cartload.

This in particular has hit Dalit women hard, given that the majority of Dalit women are agricultural labourers who rely solely on firewood collected for cooking fuel. Of those households surveyed, 28 Dalit households (93 percent) as opposed to nine non-Dalit households (45 percent) collect firewood as their sole cooking fuel, while one Dalit household and two non-Dalit households currently also purchase their firewood. Only one Dalit household (3 percent) uses gas for cooking as compared to nine non-Dalit households (45 percent). Hence, aquaculture side-impacts include increasing the workload for Dalit women.

Increasing Migration in Search of Work

Migration in search of agricultural work during the agricultural off-season was and remains a regular survival strategy for around 120 Dalit agricultural labour households. Both adult men and women migrate out of the village to undertake agricultural work in the neighbouring villages and districts for anywhere from one to three months per year. The only other communities undertaking seasonal migration are the 'lower' backward castes, particularly around 50 Upparas who migrated for approximately 15 to 20 days per year in 1990.

Wages in migration agricultural work in 1990 for both men and women ranged from under Rs.15 to Rs.40 per day, with the majority of migration workers receiving around Rs.15 per day. These wage levels have increased slightly in 2003, wages for both men and women now ranging from Rs.15 to Rs.60 per day, but with greater gender discrimination in wages between men and women now existing. Most women still receive Rs.15 per day, as compared to varying male wage rates averaging Rs.30 to Rs.40 per day in migration agricultural work.

The onslaught of aquaculture and consequent increasing agricultural labour under-employment in Nidamaru has consequently changed migration patterns from an off-season activity to throughout the year. Roughly the same number of Dalits migrate for longer periods of time in search of work, while the backward caste Upparas have almost doubled their migration numbers and annual migration days. For Dalits it is not so much workdays in the migration job that have increased due to the increasing conversion of agricultural lands in the area into aqua ponds, but more days are spent travelling in search of work throughout the year. Backward castes are now travelling up to Guntur district some 100 to 200 km away in search of agricultural labour work or earthworks, their annual migration days now around one month in a year. By contrast, Dalits are spending around three to four months outside the village searching for agricultural work within West Godavari district, but gaining on average only one to two months of migration agricultural work.

- Of the 30 Dalit households surveyed, men in 21 households and women in 22 households (73 percent) currently migrate out of the village to undertake agricultural work, as compared to men

in 20 households and women in 19 households (66 percent) migrating in search of agricultural work in 1990. While one family no longer migrates due to its family members being elders now, three households that previously did not migrate have started to migrate in search of work now. Seven households have witnessed no change in their migration workdays, while for three households their migration workdays have increased by 30 to 60 days. Interestingly, for eight households migration workdays have decreased by 10 to 30 days, which, when analysed with Dalit community interviews, suggests that while days spent outside the village in search of work have increased, their ability to secure migration agricultural work within the district has decreased.

- By comparison, migration agricultural work for one month per year for men and women of only two non-Dalit backward caste households (10 percent) has not changed, while men and women of one household who migrated to cut forest wood in 1990 no longer migrate due to their acquisition of land, which they now cultivate as their primary occupation.

II. Changes to Natural Capital

Land Ownership Patterns

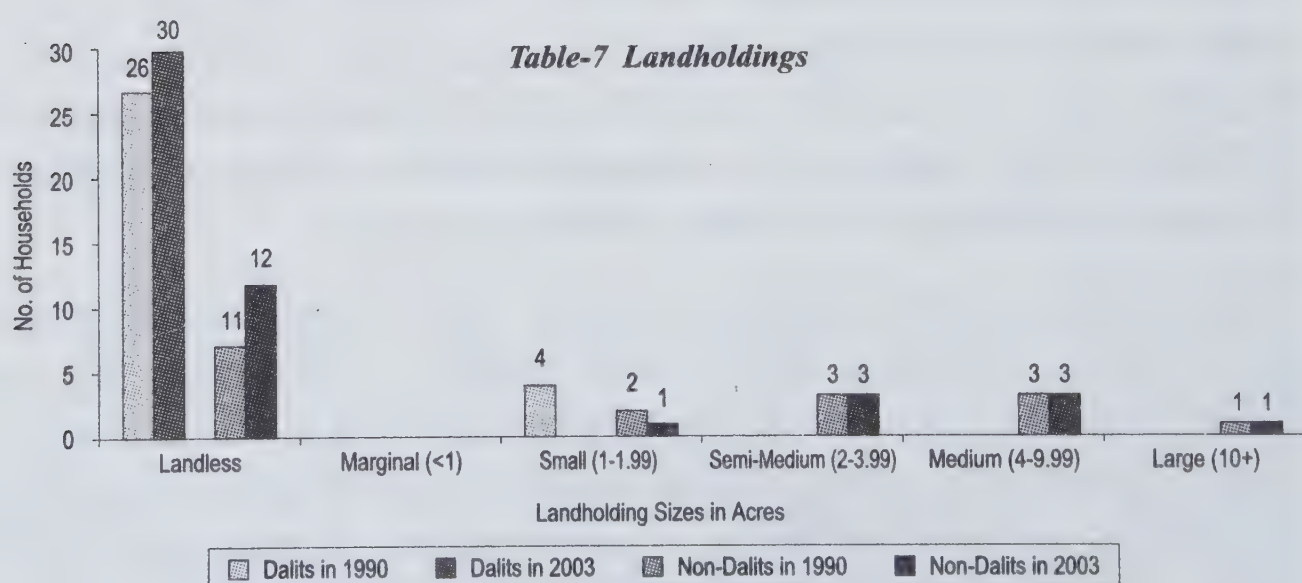
A key factor in a rural set-up in terms of livelihood security is land ownership, land being the basic factor of agricultural production. Traditionally the agrarian set-up in Andhra Pradesh has been characterised by large inequalities in land ownership. Caste discrimination in access to and ownership of land has relegated Dalits to being mostly landless agricultural labourers or marginal landowners unable to sustain their livelihoods from their land.

This pattern is clearly visible in Nidamarru, where over 90 percent of Dalits are and have always been landless. Currently, only three Dalit families (2 percent of Dalit families) own a total of 1.5 acres of land, while prior to aquaculture this number was around 14 households (9 percent of Dalit families). By comparison, average landholding sizes vary greatly among non-Dalits, but with less than 10 percent landlessness mainly seen among lower backward castes. According to the panchayat records, 45 percent or approximately 740 acres of land in Nidamarru belongs to backward castes, while the remaining 55 percent or approximately 910 acres of land lies in the hands of the forward castes. In stark contrast to Dalits, the majority of

backward castes own around 5 acres per household and forward castes anywhere from 5 acres upwards per household, larger landholdings extending to 60 acres.

In the original survey for Nidamaru village prepared a century ago, 20 acres were given to the local Brahmins and 20 acres to the Dalits of the village. However, the Land Registrar being a dominant caste, he manipulated the records so that 40 Brahmins got land patta for the total acreage. A justification of errors in the record was used to push through this fraud, for which Dalits in Nidamaru, being all but landless, have been fighting for decades to reverse. So far no change has come about to allow a community that has historically been denied land access to this vital natural resource.

- The household survey (Table 7) revealed that landlessness has increased among Dalit households, with the four households who owned small landholdings of one acre each having sold their lands to forward caste landowners over the past decade. The reasons for sales were poverty for one household, while one household had stopped cultivating lands due to the emergence of ponds surrounding their land and two households had sold their land due to pressures brought to bear by forward caste aqua farmers.



- By contrast, landlessness among the non-Dalits surveyed was seen in 11 families (55 percent) in 1990. By 2003, one family had received 1.5 acres of land under a government land scheme

during the 1990s, while two backward caste families had sold their one acre parcels of land in the early 1990s to forward caste landowners due to poverty, adding them to the total of 12 landless non-Dalit families (60 percent) in 2003. Again, it must be borne in mind that the randomness of this small survey has led to some distortions in terms of data on non-Dalits, where interviews presented a smaller percentage (less than 10 percent) of landlessness among non-Dalits as a whole.

- Otherwise, non-Dalit landholdings have remained the same over the past decade, most surveyed holding semi-medium and medium landholdings which are cultivated to ensure their livelihood. Only one backward caste landowner has converted part of his seven acres of land into aqua ponds, while the only other aqua pond operator surveyed, a forward caste, has leased in land for aquaculture and bought half an acre of wetland during the past decade to augment his landholding of four acres.

Shifting Land Markets

Besides the pressures on Dalit marginal farmers to sell land to pave way for aquaculture, aquaculture has also brought about drastic changes in land markets, with a boom in both land sale and leasing-out rates. Land prices in Nidamarru village have tripled during the 1990s, with the sale price of one acre of land increasing from Rs.20,000 to 30,000 in 1990 to Rs.100,000 in 2003. The result is to further bar access to ownership or use of land resources for Dalits who possess little or no financial capital.

Government land distribution schemes become redundant in this context, no government, even the most dedicated to the poor, being able to afford such land prices to restore some measure of equity in land ownership patterns between Dalits and non-Dalits. Currently there are 20 acres of land that could be transferred under the *Land Ceiling Act* to Dalits in Nidamarru. The forward caste landowners are willing to let the Dalits enjoy the land, knowing that they would be eventually forced to return the land to them due to the lands being surrounded by aqua ponds with access through only the non-Dalits' lands. In this situation, the Dalits have been left with little choice but to forgo this opportunity to access land, and the forward castes have since converted the 20 acres into aqua ponds.

Unequal power relations are translated into unequal bargaining power when it comes to the land market. This is no clearer than when one compares land sales by Dalits as compared to non-Dalits in this village.

- In one case the poverty conditions of a Dalit family prevented them from cultivating their land and they were eventually forced to sell their one acre in 1992 for a paltry Rs.500 to a forward caste landowner. That same year; a backward caste family was also forced to sell their land due to poverty. However, in their case the forward caste landowner gave them Rs.20,000 for their one acre of land.
- Similarly, one backward caste family fetched Rs.55,000 in 1992 from a forward caste landowner for their one acre of land. Despite the escalating land prices in the following years, in 1999 a Dalit family who stopped cultivation due to being surrounded by aqua ponds could fetch only Rs.20,000 for their acre of land. A year later, pressure from neighbouring aqua pond operators saw two Dalit families sell their one-acre plots of land to the forward caste pond operators for a mere Rs.30,000 and Rs.40,000 respectively, one third of the current market price for land in the area and substantially less than the backward caste family received eight years back in 1992 for their one acre of land.

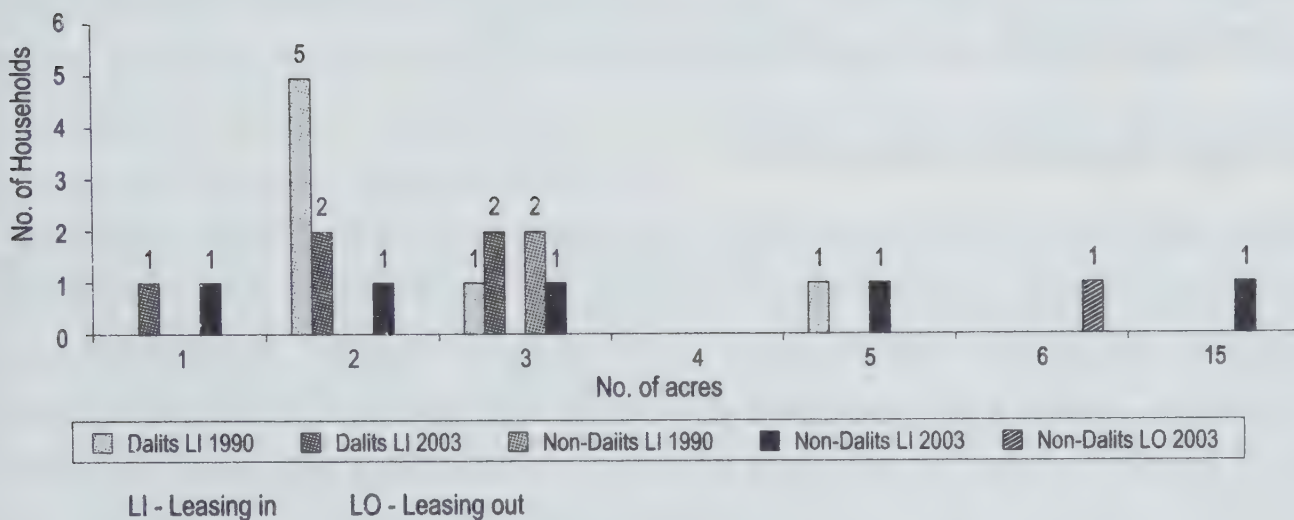
Those non-Dalits unable to afford the necessary inputs to switch from agriculture to aquaculture are cashing in on the boom by leasing out their lands. At present some 25 percent of aquaculture is carried out on owned land, while the remaining 75 percent is carried out on leased-in lands within the village. The transaction for non-Dalits is lucrative both ways, being the only active players in the leasing-out market and dominating the leasing-in market.

- One forward caste household has leased out 6 of their 10 acres of land to another forward caste landowner for Rs.10,000 per acre, while another is leasing in 15 acres of land from another forward caste landowner at a leasing rate of Rs.20,000 per acre for aqua farming and Rs.15,000 per acre for agriculture.

Looking at broader trends, the decrease in leasing-in for Dalits is mirrored by a substantial increase in leasing-in for non-Dalits over

the past decade. When reviewed in the light of reasons for changes in the lease market, this indicates that both poverty interlinked with the emergence of ponds are playing a vital role in pushing Dalits out of yet another option for access to land. At the same time this is opening up new opportunities for non-Dalits to seize complete control of the land market.

Table-8 Lease Market



- In 1990 five Dalit households were leasing in two acres of land, while one leased in three acres and one five acres, all on a sharecropping basis for paddy cultivation from forward caste landowners. However, by 2003 four of these households have ceased to lease in land, one due to the forward caste landowner refusing to lease out land now to the Dalits, one due to the emergence of ponds in the vicinity, one due to poverty and one due to incurring a loss in cultivation. Instead, in 2003 the three remaining families continue to lease in land, though one has reduced their lease from two acres to one acre due to the emergence of aqua ponds in the vicinity. Another two families have also started leasing in two and three acres each of land now for paddy cultivation from forward caste landowners, the contract remaining on a sharecropping basis.
- As far as non-Dalits are concerned, two families leased in three acres each of land in 1990 on a sharecropping basis, one from a backward caste landowner and one from a forward caste

landowner. One backward caste family leasing in from another backward caste has since discontinued their lease due to a division in the family leaving the household containing elders who can no longer work to cultivate the land. Instead, in 2003, besides the one family continuing their lease, a further four families have commenced leasing in land ranging from 1 to 15 acres. Four lessors are forward castes and one backward caste is leasing out land to another backward caste. All but one leasing-in contract is on a share cropping basis, the one contract for the forward caste leasing in land for both paddy cultivation and aquaculture, mentioned above, being a lump sum payment (*Table 8*).

Common Property Resources

Where access to land ownership is all but denied to Dalits, the only other land-based resources available in the village are common property revenue wastelands and temple lands. However, in Nidamaru, both key common property resources that might allow Dalits some means of income though cultivation are inaccessible to Dalits. Almost all revenue wastelands have been occupied by the dominant non-Dalit castes of the village. Temple lands lie outside the village and information as to their location, extent and control is denied to Dalits.

Given the caste composition of the village, the predominance of non-Dalit castes in both number and in terms of control over vital land and irrigation resources ensures that this situation is never challenged. The value placed on land ownership in the village thus becomes a key factor in propelling discrimination against already landless Dalits in the arena of common land resources, ensuring that the cycle of dependency of Dalits on non-Dalits in the labour market is maintained.

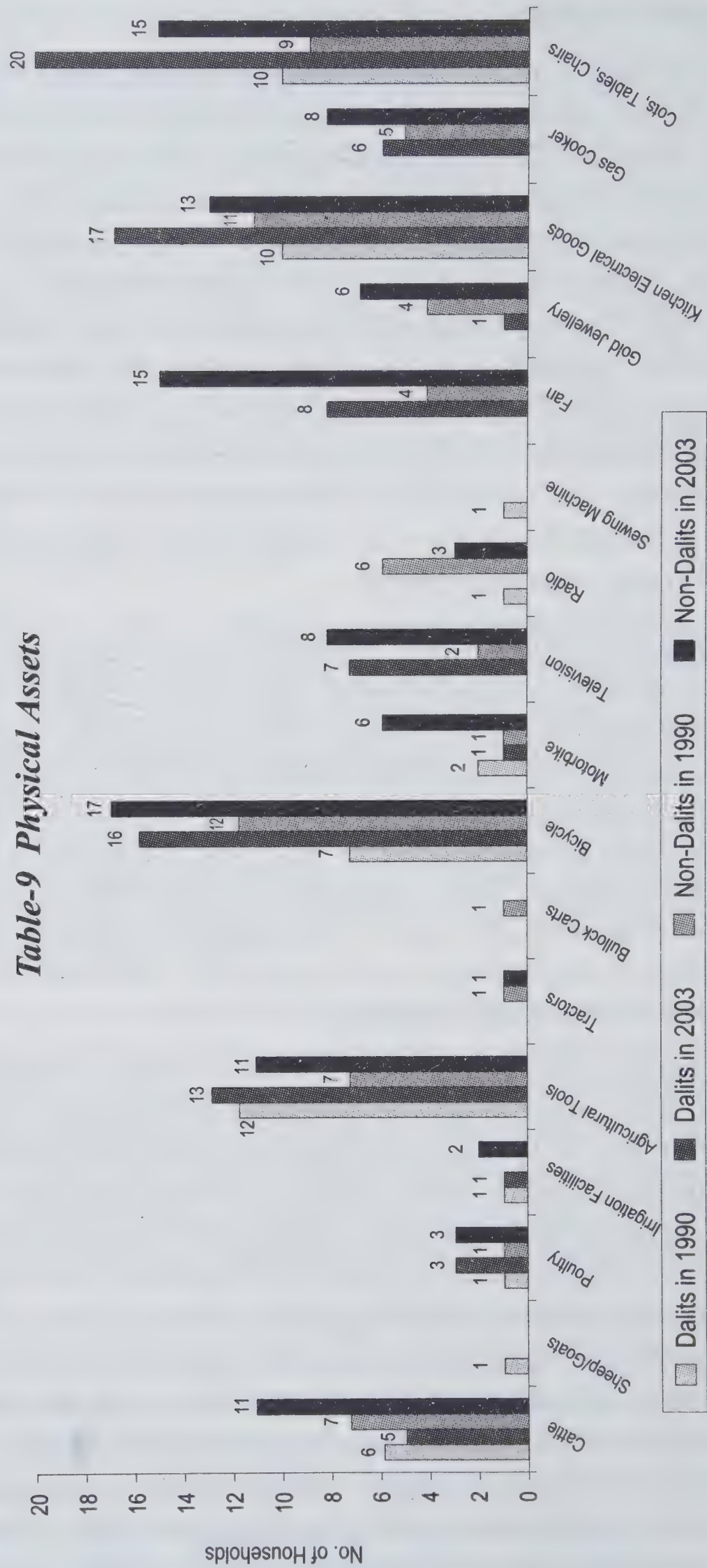
By comparison, in a water rich region, one resource that is common to all and open to all without discrimination is the large village pond. The pond is divided into three parts, one used for bathing and washing clothes, one to wash buffalo and one, in the case of many Dalits, for collecting water to be used for drinking or cooking purposes. Regulation of canal water for drinking water purposes has never been an issue until the advent of aquaculture, with each caste locality taking water from nearby canals.

III. Physical Capital

In a similar pattern to the land asset base disparity between Dalits and non-Dalits, possession of other common physical assets such as livestock, irrigation facilities, tractors, modes of transport, televisions, radios, jewellery and kitchen electrical goods remains lower among Dalits as compared to non-Dalits. Notably, West Godavari district is commonly known as the 'granary of Andhra Pradesh', and hence tractors, threshers and harvesters have spread throughout the district in the 1990s, capitalising on the high paddy yields. However, high capital equipment is out of the reach of the majority of Dalits, with only the dominant non-Dalit castes able to afford to buy or lease in such machines. All such physical capital has not only status value, but also indicates the ability of a household to weather any sudden financial crisis or natural disaster.

- Only one Dalit household registered ownership of no physical assets in either 1990 or 2003 as well as landlessness, the fact of subsisting solely on agricultural labour indicating the particular poverty vulnerability of that household. Otherwise, the gap in terms of percentage of Dalit vis-à-vis non-Dalit ownership of physical goods in 1990, as shown by the survey (*Table 9*), has increased by 2003. This serves as another indication of increasing financial capital accumulation among non-Dalits, leading to increasing wealth disparity between Dalits and non-Dalits within the village.
- Livestock ownership is lower among Dalits as compared to non-Dalits, and the decade of aquaculture has only increased this disparity. In 1990 only six Dalit households (20 percent) owned any livestock assets – cattle, sheep, goats or poultry – as compared to eight non-Dalit households (40 percent). The gap has increased by 2003, with six Dalit households (20 percent) as compared to 11 non-Dalit households (55 percent) now possessing livestock assets. Poverty compulsions have driven the sole Dalit household possessing two goats and two other Dalit households with cattle in 1990 to sell off these assets. Another household had sold their bullock due to the increased use of tractors for agriculture and one due to shrinking grazing land reserves. By contrast, only one non-Dalit household has decreased their cattle assets, selling their cow due to being unable to manage it.

Table-9 Physical Assets



- Only one non-Dalit surveyed owns a tractor, having sold off another tractor he owned in 1990 due to the emergence of aqua ponds. Bullock carts, the traditional method of ploughing the land, are no longer owned by anyone, with one non-Dalit having sold off his cart during the 1990s due to not being able to manage it.

Public transport is commonly used by most Nidamarru villagers, though the use of bicycles has greatly increased during the period 1990 to 2003 due to the emergence of the aqua ponds, many of which are fenced off and thus prevent access across what were once agricultural fields. So-called technological advances from radios to televisions, mud ovens to gas cookers, and increased use of cots, tables and chairs have also swept through the village.

- Both Dalits and non-Dalits have increased their bicycle assets in the past decade. By comparison, of the two Dalit households (6 percent) owning motorbikes in 1990, one household had been forced to sell off their bike due to financial problems by 2003. For non-Dalits, ownership of this costly asset has increased from one household (5 percent) to six households (30 percent) between 1990 to 2003, indicating increased wealth in the households.
- With television ownership increasing over the 1990s for both Dalit and non-Dalit households, radio usage has consequently declined for all households. Those with electricity connections have also taken advantage of this amenity to purchase fans and kitchen electrical goods during that period, again a greater number of non-Dalit households as compared to Dalits owning these assets. Moreover, the government's DWCRA scheme, with its provision of cooking gas to 600 of the 1,300 households in the village, has given four Dalits surveyed gas cookers, while two more Dalit households have also acquired cookers now. By comparison, only one non-Dalit has received a gas cooker under the DWCRA scheme, while five already had gas cookers by 1990 and three have since acquired cookers.
- Nidamarru being situated in coastal Andhra with high rainfall patterns, cots and chairs are in widespread use. Ten Dalit households (33 percent) had these assets in 1990, increasing to 20 (66 percent) households by 2003, while for non-Dalit households, numbers increased from nine (45 percent) to 15 (75 percent) in that same period.

Overall, taking the percentage-wise trends in increase or decrease in physical assets over the decade time period, the emergent pattern is of most non-Dalits having significantly increased their asset base over the 1990s, indicating increases in income, while for Dalits the asset base increase was less prominent and confined to lower cost items such as cots, bicycles and kitchen electrical goods.

IV. Economic Capital: Savings and Loans

Ownership of economic capital in terms of savings to tide over households in times of financial need or crisis is still largely confined to non-Dalits in Nidamaru. Most Dalits have little or no savings, their wages from agricultural labour being primarily used for consumption needs and other key expenses such as children's education.

- Currently, only eight Dalit women of the 30 Dalit households (27 percent) and four non-Dalit women of the 20 non-Dalit households surveyed (20 percent) are part of DWCRA savings groups, with monthly savings ranging from Rs.30 to Rs.50. While for three Dalit women information was not available as to the purpose to which savings are applied, three other women have used their savings for health purposes, one for household expenses and one for purchasing cultivation inputs on leased-in land. For non-Dalit women involved in SHGs, two have used savings for household expenses and two for health purposes.

By contrast, for those involved in aquaculture the high returns are mostly finding their way into bank accounts, increasing their financial security. Only a few have seized the opportunity to improve their asset base in terms of motorbikes or house improvements. While financial inequity between Dalits and non-Dalits has always characterised the village economy, the contrast is thus being sharpened by the promotion of aquaculture without any guarantee for Dalits' access to any direct or indirect financial benefits.

For the majority of Dalit families, dependence on the informal credit market remains high, most having regular standing credit of around Rs.5,000 to 6,000 from the dominant caste moneylenders, agricultural *mestries* and landowners. According to interviews, most Dalits have been forced to almost double their rates of loans from 1990 to 2003, currently having outstanding loans of between Rs.5,000 to Rs.50,000.

- Of those surveyed, most were unable to say what their current loan amounts including compounded interest were, knowing only the original loan size. While all but two households were unable to recall their loan sizes in 1990, of the 18 Dalit households with current outstanding loans, the majority (13 households or 43 percent) had taken loans of between Rs.3,000 to Rs.10,000. Only one had taken a Rs.1,000 loan and four had taken loans between Rs.15,000 to Rs.40,000.
- All these Dalit households participated in the informal credit market, with the majority (13 households or 43 percent) receiving loans from forward caste landowners, two from dominant caste moneylenders, one from a backward caste landowner and two from relatives (*Table 10*). Usurious monthly compounded interest rates mark the informal credit market in the village, with one moneylender charging an annual interest rate of 60 percent, while most dominant caste landowners charged 36 percent annual interest. Loans were secured for five main purposes, the most prominent being to meet household expenses or to purchase agricultural inputs or livestock. The majority of loans were being repaid from daily wages (*Table 11*).
- By contrast, most non-Dalits access both formal and informal credit institutions. As with Dalits, most non-Dalits were unable to recall their loan rates in 1990. However, for the 13 non-Dalits households with current loans, loans ranged from Rs.3,000 to

Table 10 Formal and Informal Sources of Household Credit in 2003

Amount in Rupees	Money-lender	Dominant Caste Landowner		Relatives		Commercial Bank
	Dalit	Dalit	Non-Dalit	Dalit	Non-Dalit	Non-Dalit
1,000-5,000	1	8	4	2	1	1
5,001-10,000	1	2	2	2	--	1
10,001-15,000	--	1	--	--	--	--
15,001-20,000	--	1	--	--	--	1
20,001-30,000	--	1	--	--	--	--
30,001-50,000	--	1	--	--	--	--
200,000	--	--	--	--	--	2
400,000	--	--	--	--	--	1
TOTAL	2	14	6	2	1	6

Table 11 Loan Purpose and Repayment Method

Loan Purpose:	Dalits	Non-Dalits
Income generation (cultivation)	5	5
Household expenses	7	7
Health	2	--
Marriage	4	--
House construction/renovation	1	1
Repayment Method:	Dalits	Non-Dalits
Savings	1	--
Income from crops	4	6
Daily wages	14	7
Total no. of Loans	19	13

Rs.400,000, with the majority of lower range loans taken by backward caste families from forward caste landowners, while the majority of bank loans exceeding Rs.10,000 were taken by forward caste families, indicating the ranging repayment ability across different non-Dalit castes.

- Around half (six households or 46 percent) received their loans from formal credit institutions, namely commercial banks, which set cumulated interest rates of between 14 to 24 percent per annum. Of the remaining seven households, six households (46 percent) relied upon forward caste landowners charging annual interest rates of 36 percent, while one had received a loan from their relatives (*Table 10*). In the case of non-Dalits, loans had also been secured primarily for household purposes, followed by cultivation and aquaculture inputs expenses. However, the difference is that half repay their loans from wages and half from their income from cultivation, indicating a greater financial ability to repay loans (*Table 11*).

Thus, while both an equal percentage of Dalit and non-Dalit households had current outstanding loans, analysis of the source of loans indicates that non-Dalits, particularly Nidamaru's forward castes, control the informal credit market. Linked with their control over land and labour markets, this allows them to exploit Dalits' increasing poverty under aquaculture by charging usurious interest rates that only strengthen economic dependency of Dalits on them.

V. Human Capital

Education

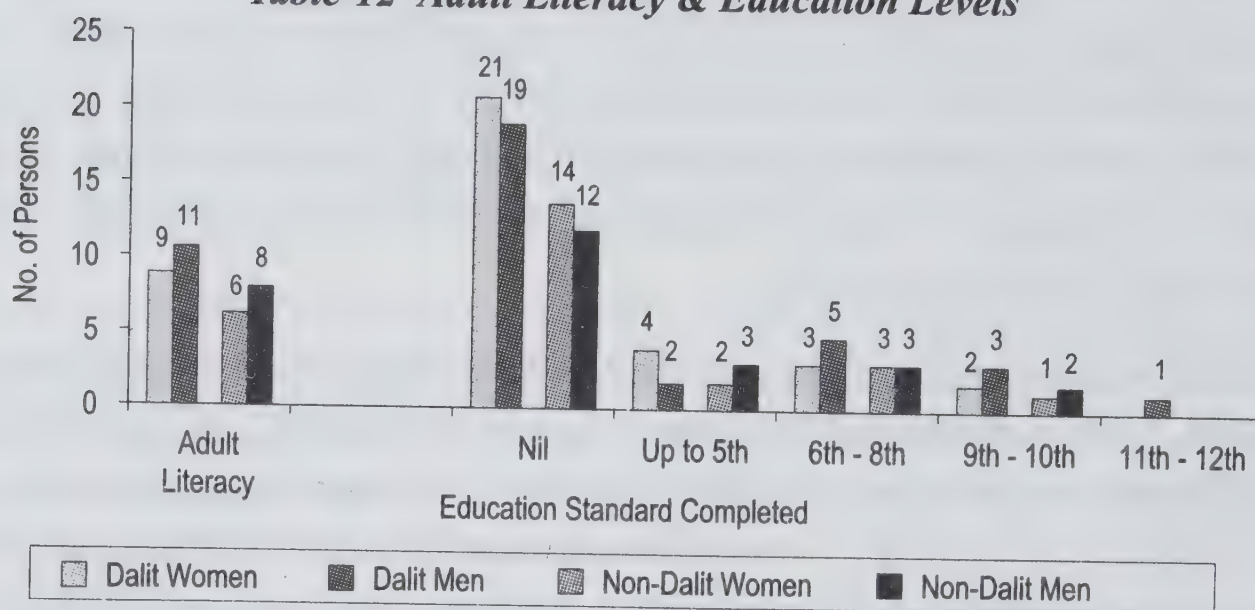
In a scenario where Dalits have little ownership of resources or access to natural resources, realising the right to education becomes an important skills enhancing tool for improving livelihood capabilities. Moreover, the market shift from unskilled, labour-intensive work to more knowledge-based forms of employment is making education a more essential base for socio-economic mobility in today's globalised world. At the local level, for Dalits it is one means of opening up employment opportunities outside of waged labour work into more economically stable and sustainable forms of work. It also places them in a better position to compete with non-Dalits in securing their right to adequate work and breaking their historical dependency on non-Dalits for employment.

Current trends see Dalit boys in Nidamaru study up to 6th standard at least, with perhaps half or less going on till 10th standard before dropping out to join the agricultural labour force. Dalit girls fare worse, most only studying up to 3th or 5th standard before dropping out of school to primarily work or look after the house and younger siblings. While education levels are slowly increasing among boys, for Dalit girls the situation has not much improved, with most still being married off by the age of 15 or 16 years. By contrast, many non-Dalit boys and girls are now being retained in schools up till 10th standard, with lesser differentiation between girls and boys, though it still exists. Hence, dropouts from education for children, particularly for those under 14 years of age, are still prominent among Dalit children as opposed to non-Dalit children. Dropouts among non-Dalit children are now mainly confined to children of poorer backward castes.

- Of the 30 Dalit households surveyed, only 11 male household heads of working age (37 percent) and nine female household heads (30 percent) have attended any formal education and are literates, as compared to eight non-Dalit male household heads (40 percent) and six non-Dalit female household heads (30 percent). Little difference would appear to exist in education levels, with the majority of men having studied up to upper primary school or secondary school, while the majority of women have studied only up to primary school level and a few up to

upper primary school. Hence, this would suggest that access to and ownership of resources rather than education has played a key role in economic mobility among non-Dalits, combined with social assets of networks to secure information and access to opportunities afforded by agriculture and now aquaculture (*Table 12*).

Table-12 Adult Literacy & Education Levels



- At present, all 12 Dalit families and eight non-Dalit families with children send them to government schools. The other four non-Dalit families, or one-third of those non-Dalit families with children, have sufficient resources to send their children to private schools, where a higher quality of education is generally expected.
- Nine Dalit households (30 percent) have a total of 14 children outside school as compared to three backward caste families (15 percent) having a total of six children outside school. Dalit children from two households and one backward caste family's child have never been to school, while children from five Dalit households and two backward caste households cite poverty as reasons why their children are no longer in school. Only in the case of two Dalit Madiga families was it noted that the 2 km distance from their colony to the school in the main village has prevented their children from undertaking their basic elementary education.

- The majority of Dalit child dropouts have moved into agricultural work (seven households), while children from one household stay at home, and the girl child from another household stays at home and looks after the house and younger siblings. By comparison, two households with backward caste child dropouts had moved into agricultural work, with children from one of those households also remaining at home. The other household with dropout children retained their children at home as yet.

Government Skills Trainings

Supplementing education's ability to impart new skills, skills training in alternative forms of employment or entrepreneurial skills to build up human capital among Dalits is a separate and vital role for a government committed to 'enhancing livelihoods for the poor'.

- Of those surveyed in Nidamaru, only one Dalit woman was given some training in a government sewing centre, and one Dalit man had taken part in the CMEY scheme. Otherwise, there are eight Dalit women and four backward caste women currently in DWCRSA savings groups, self-help group savings and credit schemes being the primary form of skills training being imparted by the government in this village.

However, the benefits of imparting savings skills to Dalit women when as a community livelihood security has decreased, particularly in terms of securing adequate days of employment, seems questionable. Without any processes to form cooperative societies of Dalits and other poor to undertake aqua farming and impart the necessary training, no Dalit can hope to access any of the benefits of aquaculture or fisheries development in Nidamaru. Leave this aside, the dearth of government programmes aimed at buffering the threat to livelihood security for Dalits posed by aquaculture, by increasing capabilities through imparting new livelihood skills and opportunities, is telling of the Government's lack of commitment to enhancing livelihoods for this marginalised community.

Health and Food Security

Finally, further evidence of the need to enhance human capital among Dalits in the present aquaculture scenario can be seen when viewing the declining health status of Dalits over the past decade of

aquaculture. The most noticeable health-related impact is the increase in water-related diseases caused by the diversion of most canals for the aqua ponds and consequent release of polluting pond effluents into the canals. Prior to aquaculture, all villagers were able to collect potable drinking water from any of the surrounding irrigation canals. However, this slowly changed on the introduction of fish culture. And on the introduction of more polluting shrimp culture, all were forced to stop taking their drinking water from the canals.

For most of the non-Dalit population in the main village, barring the 'lower' backward castes, this was not a problem. The forward caste panchayat president had ensured in 1985 that the main village was supplied with piped surface water stored in a 90,000L overhead tank. According to him, the tank was originally built for 2,500 persons, but with the doubling of the population the tank capacity has to be accordingly doubled to meet the water needs of the Nidamaru villagers. However, the excess use of water from the canals for the shrimp ponds is taking its toll on ground water levels in the village and surroundings, in itself affecting the current sustainability of the tank water level. At present the panchayat is preparing to double the capacity of the village tank, but whether it will be able to supply an adequate amount of water to meet the villagers' needs without discrimination remains to be seen.

The village currently has 70 to 80 public taps, allegedly granted population-wise, and around 500 individual tap connections were granted up till 2001. However, if public water tap connections were given population wise, the Dalits should have been granted eight public taps, double the number of taps they currently have. Instead, the Dalit Mala colony of 100 families got its first public tap in 1993, with the second tap allotted only in 2002 after sustained complaints of inadequate drinking water supply. Likewise the Dalit Madiga colony of 50 families received their two water taps only in 1996, 11 years after the overhead tank was first placed in the village. For both colonies of Dalits, the water received through their total of four public water taps, which is 5 to 6 percent of the total public taps, is hardly enough to meet their daily drinking water needs. Only four Dalit Mala families are lucky to have received individual tap connections (0.8 percent of the total individual tap connections) to their houses.

Drinking water is released from the tank for half-hour periods in the morning and then late afternoon, the inconvenient timings drawing many Dalit women away from work in the fields. Moreover, the short timings for water releases leave Dalit women, particularly in the Mala colony with its greater population, hardly enough time to fill their vessels for their daily drinking water needs. The result is that the Mala women must now fetch both cooking water and bathing water from the village pond, which was previously used solely for washing buffaloes. However, this pond is being polluted with increased use by the villagers. For the Madiga women, the distant location of the Madiga colony leaves them with no choice but to continue to draw water for their cooking and bathing needs from the surrounding polluted irrigation canals.

By comparison, the non-Dalit localities have received the benefit of 95 percent of the public tap connections and 99 percent of the individual tap connections. Those with separate water tap connections have ample water for all their needs, as do the majority of those accessing public taps. Even the backward caste Uppara colony, which fought for a year to get four public tap connections for its population of 100 families in 1999, is able to often supplement the shortfall in its water requirements by drawing water from the village tank located 250m away. However, even with the water tank, which filters water before it reaches the public taps, most now have to boil the water before drinking. This is attributed to most of the water feeder channels for the tank running along land now subsumed into fish ponds, with polluted pond water – cowdung mixed with fish feed and excrements - being released into the feeder channels during harvesting times. Only those with separate water taps with additional filters - that is, 4 Dalit and 496 non-Dalit households - are therefore guaranteed potable drinking water.

The right to adequate and safe drinking water thus assume key importance in Dalits' lives under aquaculture. The resulting health problems, noted particularly by all Dalits and some 'lower' backward castes who still have to rely on canal or pond water to fulfil their cooking and bathing water needs, are increasing incidences of skin diseases and diarrhoea. Moreover, during such times as the dry season when polluted water concentrations are high and the bad odour noticeable, breathing problems also arise.

In addition, the unchecked diversion of irrigation canals for the ponds has occasioned greater siltation of the canals. The result is that the annual monsoons now flood many agricultural fields as well as those colonies such as the Mala locality situated by the ponds. Again, the rise in water-related diseases during the monsoon becomes an issue.

- Around 50 percent of Dalit households surveyed indicated that the number of days of ill-health in the household had increased. In the 1990s, for 40 percent their number of sick days had decreased by 10 to 30 days, and for 10 percent sick days had remained the same. By comparison, for 35 percent of non-Dalit households the number of days of ill-health in the household had increased over the past decade, while for an equal percentage the number of sick days had decreased and for 30 percent it had remained the same (*Table 13*). What this can at least indicate is that proportionately there has been a greater increase in ill-health for Dalits as compared to non-Dalits over the past decade. When taken with the fact that the majority of Dalits and non-Dalits accessed private healthcare facilities with reasonably good medical facilities even back in 1990, poorer health conditions among at least half the Dalit population are a key indication of the mal-development of this essential livelihood capital over the years since the introduction of aquaculture.

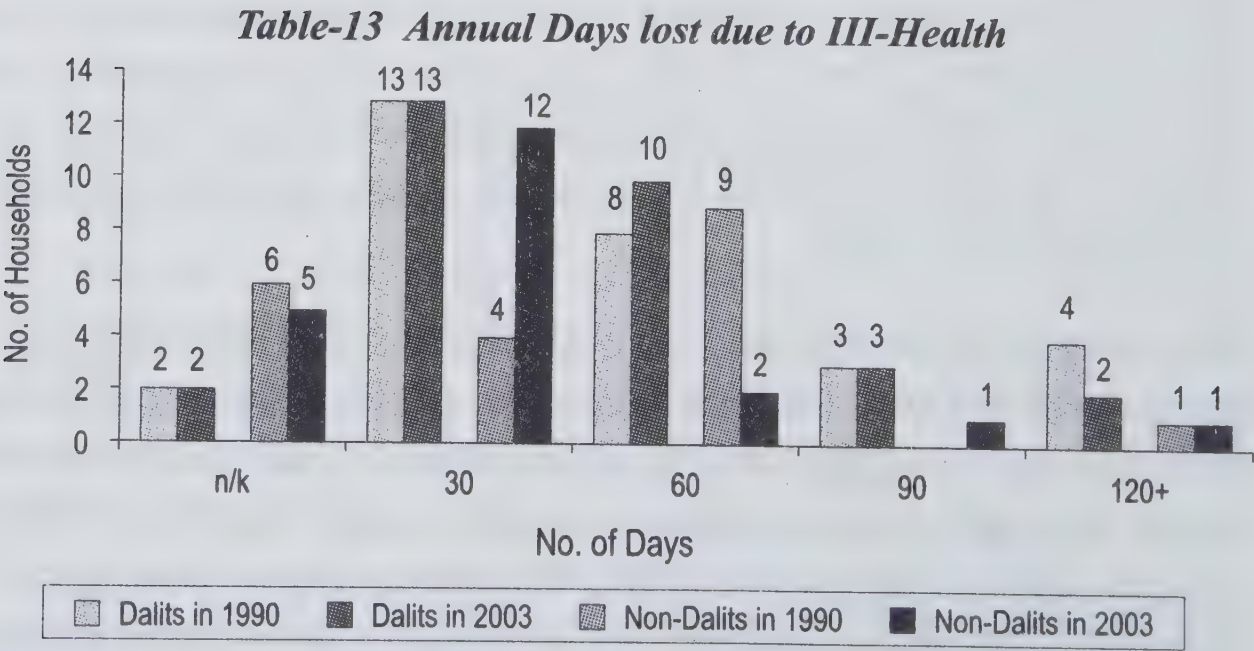
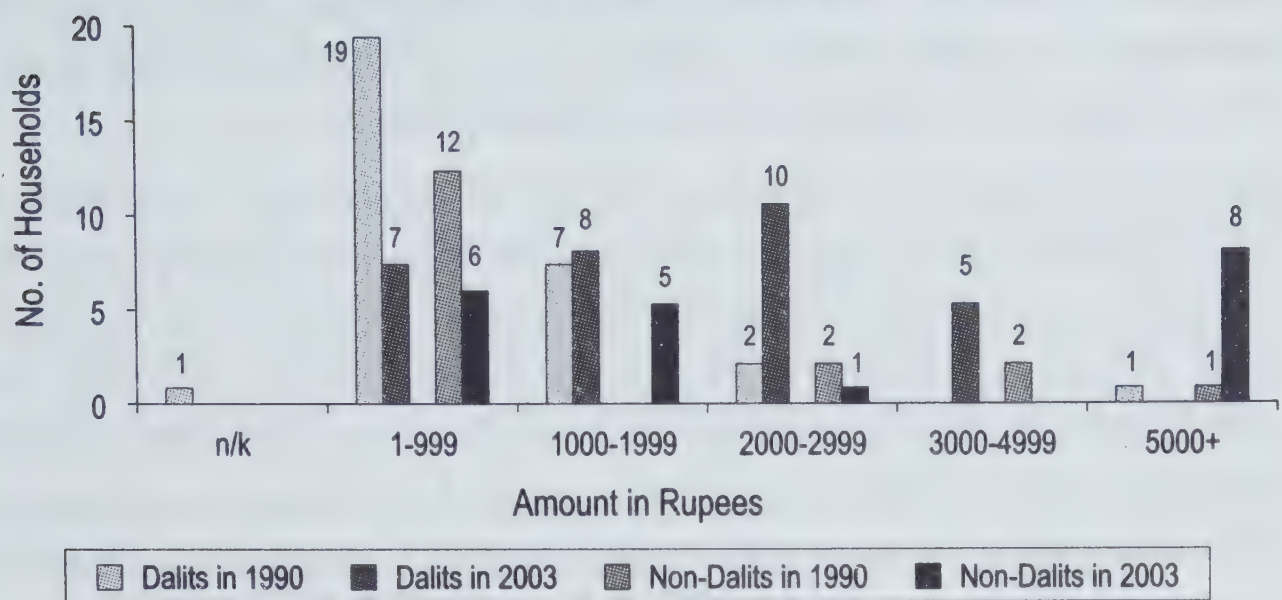


Table-14 Annual Expenditure on Healthcare



- This is reinforced by the fact that annual expenditure on healthcare has risen for Dalits from an average of under Rs. 1,000 per annum to around Rs.2,000 to 3,000 per annum. Meanwhile, for non-Dalits the rise has been from an average of under Rs.1,000 to Rs.1,000 to 2,000 per annum, with some forward castes spending over Rs.5,000 on healthcare at the other end of the spectrum. The corresponding result for many Dalits is that health-related loans have significantly increased, many borrowing to access the private clinics (*Table 14*).

VI. Social Changes in Caste Relations

At the level of perceived changes for Dalits, many cite the lessening of dependency by the dominant non-Dalit castes on them for labour as a direct result of aquaculture. Prior to aquaculture the greater extent of lands under cultivation ensured a mutual dependence between Dalit agricultural labourers and the non-Dalit landowners in terms of secure exchange of employment and labour both within the village and in the surrounding villages. But the shift by many non-Dalits to aquaculture has resulted in greater inequality creeping into power relations between the two social groups, with Dalit dependency increasing at an exponential rate to non-Dalit landowner dependency. When viewed in light of the poor human capital – education, skills and health, natural and financial capital possessed

by the majority of Dalits, widespread livelihood insecurity has become the experience of Dalits under aquaculture. The contrast picture presented by those in aquaculture is of amassed wealth and greater livelihood security where already their livelihoods were assured through agriculture on their large landholdings.

Many backward caste cultivators, by comparison, have both the natural and financial capital to commence aquaculture. For them, it was a lack of understanding of the financial benefits to be gained from aquaculture that made them forbear from moving from agriculture into this new venture. Only after seeing the huge benefits being reaped by other non-Dalits engaged in aquaculture has their interest in shifting to aquaculture been sparked. However, with shrimp culture development now officially restricted by the government following the Supreme Court's ban on new coastal shrimp culture ventures, this option is at least officially closed for them. Meanwhile, decreasing land fertility caused by the surrounding shrimp ponds remains their main source of concern regarding their livelihood.

Any attempt by those villagers outside aquaculture to protest against aquaculture and its mal-effects on rights to employment, land or water in particular are felt to be useless. The lucrative nature of aquaculture, with millions of rupees being circulated in the region, has attracted local MPs and MLAs in the region, many operating fish or shrimp ponds. A commonly known secret is the collusion between the Forest Department, Revenue Department, local politicians and non-Dalit aqua pond operators in the area to turn a blind eye to wide-scale land encroachments and illegal conversion of forest and sanctuary lands into ponds. A cited example is that if anyone were to file a complaint of illegal aquaculture in the village, the Forest or Revenue Department would immediately communicate this information to the dominant caste aqua pond owners. Before the officials could come near the village, the aqua pond owners would then meet up with the officials and after receiving a bribe of up to Rs.100,000, the officials would return to their offices and dismiss the complaint. Where millions of rupees are involved, bribes become a token process to ensuring continued exploitation of water and land resources at the cost of Dalit and other marginalised people's right to livelihood. In such a situation, the Dalits can be forgiven for their resignation to this new state of affairs in the village. And still the shrimp ponds continue to expand their hold on the village.

Overview Analysis: Human Rights Perspective

A key promise held out by the Government of Andhra Pradesh in Vision 2020 to the rural poor in aquaculture regions is the provision of securer and sustainable livelihoods through fisheries development. By doing so, the State would be discharging in part its obligations under *Article 38 Indian Constitution*, which directs the State to strive to minimise inequalities in income, and endeavour to eliminate inequalities in status, facilities and opportunities not only among individuals but also among groups of people engaged in different vocations, to promote social justice and the equal welfare of all citizens.

In apparent fulfilment of this goal, the State is restructuring the local economy by adopting macro-economic policies based on the premise that with appropriate technical upgrading and infrastructure for fisheries production and sufficient local and external capital inputs, aquaculture and shrimp culture in particular can become a major export earner for the state. This will in turn generate foreign exchange to repay external loans taken to develop the state. In the process local employment and rural income generation will not only allegedly be secured, but also poverty alleviated and livelihoods enhanced. Meanwhile, no concrete measures are set in place to ensure that poor and marginalised communities such as Dalits are able to access these benefits. The government instead relies upon macro-economic policy rhetoric that the benefits of improved modes of aquaculture production will trickle down to the poor.

However, contradictions creep in when this development model is introduced into the local Andhra Pradesh context of a socially stratified society, where traditionally caste had been a primary factor dictating which social groups have rights of access to resources and economic opportunities such as aquaculture. As exemplified in the case of Nidamaru, aquaculture development may have changed the form of rural development and introduced new occupations into the village, but it has not altered the substance, that is, caste-based inequality between Dalits and non-Dalits in access to and ownership of livelihood assets and opportunities. Instead, aquaculture is being seen to be merely deepening these inequalities to the further disadvantage of the Dalits, resulting in further violations of three key rights: the right to work linked to access to resources; the right to health, particularly due to widespread water pollution; and the right to sustainable development of livelihoods.

Broad Impacts of Aquaculture		
Area	Dalits	Non-Dalits
New occupations	<ul style="list-style-type: none"> - no Dalit possesses sufficient land or financial capital to invest in aquaculture or to become aqua input dealers - while initially pond digging and desilting was done by labourers, earthmovers have been introduced since 2001, supplanting labour - limited waged labour work for an average of 10 days per year in aqua ponds for very few Dalits - Dalit aquaculture labour contractor unable to compete with dominant caste contractors due to lack of financial capital to initially pay labourers to work in ponds - new opportunities in lorry loading work due to increasing aquaculture outputs needing packing and quick transport to cold-storage facilities 	<ul style="list-style-type: none"> - landowners possess sufficient land and financial capital to convert lands to more lucrative livelihood in aquaculture - growth of aquaculture mestries and labour contractors to bring workers to ponds during harvesting and cleaning times - growth of aqua input dealers - limited waged labour work for an average of 10 days per year in aqua ponds for more backward caste labourers
Old occupations dying out	<ul style="list-style-type: none"> - fishing disappearing due to emergence of aqua ponds and consequent pollution of waterways - decline in cattle herding due to lack of grazing land availability due to ponds 	<ul style="list-style-type: none"> - decline in bullock cart carriers due to both lack of grazing lands caused by emergence of ponds as well as introduction of machines for ploughing
Agricultural labour	<ul style="list-style-type: none"> - around 25% to 30% reduction in annual workdays available due to growth of aqua ponds, coupled with reduced per acre agricultural labour requirements due to greater use of machines - labour surplus causing greater competition for work with backward caste labourers and so less job security - evidence of discrimination in terms of backward caste labourers being preferred over Dalits 	<ul style="list-style-type: none"> - dominant caste landowners maximise profits while decreasing labour costs through use of machines and decreasing dependency on labour due to labour surplus - though experiencing the same problems as Dalits, backward caste labourers still enjoy greater number of annual workdays in agricultural labour - evidence of discrimination in terms of backward caste labourers being preferred over Dalit labourers

Cultivation	<ul style="list-style-type: none"> - more migration not only in the agricultural off-season but also throughout the year - greater occupational diversification to cope with loss of livelihood due to aquaculture - the few Dalit cultivators have slowly decreased in number, due to the few with land selling their land due to poverty or being forced to sell due to pressure from neighbouring dominant caste pond operators - shrimp pond effluent released into irrigation canals seeping into agricultural fields, lowering land fertility and decreasing second crop paddy yields - Dalits have no say over access to and control over water resources, as none are part of Water Users Association 	<ul style="list-style-type: none"> - still greater annual workdays in agriculture for non-Dalits, who own greater extents of land as compared to Dalits - shrimp pond effluent released into irrigation canals seeping into agricultural fields, lowering land fertility and decreasing second crop paddy yields - possess greater financial capital as compared to Dalits to pour into agricultural inputs of fertilisers and pesticides to offset any negative impacts of aquaculture
Land markets	<ul style="list-style-type: none"> - increasing landlessness among Dalits, with the few Dalits with land having sold their land during the 1990s due to poverty or being forced to sell due to pressure from neighbouring dominant caste aqua pond operators - soaring land prices place land purchase out of the reach of financial capital-poor Dalits - leasing in land declining among Dalits due to increasing land lease prices and emergence of ponds 	<ul style="list-style-type: none"> - dominant caste control over land market strengthened with increasing land prices and leasing out prices due to aquaculture - increasing leasing in of land for agriculture and aquaculture
Credit markets	<ul style="list-style-type: none"> - doubling of loans during 1990s due to aquaculture and subsequent decline in employment opportunities 	<ul style="list-style-type: none"> - dominant caste control over informal credit market strengthened with decreasing labour opportunities for Dalits and lack of savings leading to increase in their loans from particularly forward caste landowners

<p>Other impacts</p>	<ul style="list-style-type: none"> - decreasing livelihood security levels - increasing water-related diseases due to insufficient water taps and insufficient access to relatively clean tank water forcing some Dalits to use village pond water or even the canals for drinking water and cooking needs - increasing workdays lost due to ill-health occasioning greater healthcare costs and hence more loans - declining food security due to use of plastic bags for threshing leaving Dalit women with no left-over rice grains to collect for their household - decline in livestock assets due to poverty and shrinking grazing reserves, while increase in bicycle ownership due to longer distances to cover to get around ponds - whereas before firewood would be collected from dominant castes' field bunds, now increasing difficulty faced by Dalit women to collect firewood to meet daily cooking needs due to emergence of aqua ponds and consequent lesser availability of agricultural labour work - greater propensity for flooding of Dalit Mala locality located by ponds, due to increasing siltation of canals caused by diversion of canals to aqua ponds 	<ul style="list-style-type: none"> - increase in financial capital in the form of savings and costly assets such as motorbikes due to high income from aquaculture - increasing livelihood security levels
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Right to Work

Commercial aquaculture has precipitated the emergence of a new class of neo-rich in Nidamaru, high profits in comparison to agriculture consolidating the dominant castes' socio-economic status and enhancing their livelihood capitals. High capital inputs for aquaculture, possession of land resources and control over water resources have demarcated this occupation to the dominant caste landowners, who own or control practically all the land, common property revenue wastelands and lease markets in the village, the Water Users Association which regulates irrigation water utilisation and the local panchayat. Moreover, their concentration in self-employed agricultural cultivation on medium to large landholdings has led to their accumulation of sufficient financial capital to shift to aquaculture and to access formal credit institutions to meet aquaculture input costs. In addition, those in aquaculture allied occupations have also emerged as another class, with the aquaculture mestries now stepping into the same role filled by agricultural mestries, while dominant caste fertiliser and seed agents in the nearby towns have sprung up to capitalise on aquaculture benefits.

In direct contrast, possession of lower human capital in terms of education and health levels, concentration in less skilled, low-waged labour occupations, particularly agricultural labour, and historical alienation from ownership or access to land is where Dalits are placed in the village. These conditioning factors have resulted in most Nidamaru Dalits possessing low standards of living that preclude many from building up their own livelihood capital. Combined with a lack of technical skills and market linkages, these factors ensure that the Dalits are unable to seize opportunities for investment such as in aquaculture. Moreover, land markets are further closing to Dalits due to soaring land prices, precluding any option to move from agricultural labour into more sustainable self-employment in cultivation or allied agricultural activities.

Instead, the widespread conversion of lands to aquaculture, coupled with the less labour intensive, more mechanised nature of aquaculture operations, is negatively impacting on Dalits' right to secure work. This is seen in terms of lessening workdays in agricultural labour due to the emergence of the aqua ponds and the subsequent creation

of a labour surplus, as well as loss of the meagre land resources they had. Many Dalit agricultural labour households surveyed had lost an average of around two months' worth of agricultural work as a result of aquaculture. A subsequent increase in the number of secondary waged occupations indicates livelihood diversification into more casual labour works to meet family livelihood needs.

Meanwhile, for backward castes who already had a greater number of agricultural labour workdays both in 1990 and at present, the lessening workdays caused by aquaculture have not as yet pushed these households to diversify into supplementary occupations, waged or self-employed. This indicates their greater livelihood security in comparison to Dalit agricultural labourers.

Where labour has been the Nidamaru Dalits' main livelihood capital, labour surplus entails both increasing competition for work and deepening contradictions between the lower castes-classes, particularly between the 'lower' backward castes and Dalits who form the bulk of the agricultural labour force. With the widening gap in livelihood status between the dominant castes – upper classes and the Dalits – lower classes, the market is also dividing the lower classes on the basis of caste. This is facilitated by the dominant caste landowners through caste discrimination, with the majority of Dalits being denied work in the aqua ponds and some further ousted from agricultural fields in favour of backward caste labourers. This pre-empts any possibility of the lower castes-classes joining together to perceive the contradictions and socially organise to demand the dominant caste actors, the market and the State address their stakes in development. In addition, this situation also gives rise to potential for future conflicts between the lower castes-classes.

Hence, the negative effects of aquaculture on Dalit livelihoods only reinforce socio-economic patterns of inequality between Dalits and non-Dalits in access to key labour, land and credit markets. However, with reciprocity of dependency by dominant castes on Dalits for labour simultaneously declining, and with their right to livelihood security increasingly threatened, Nidamaru Dalits are opting between four main coping mechanisms:

- (i) increasing migration in search of agricultural work in the district, which is fraught with risk due to aquaculture spreading in the

region and bringing about labour surpluses in many villages. This is evidenced by the increasing days Dalits now spend looking for work as opposed to actual migration workdays, which in itself has ramifications for family cohesion and the rights of particularly children to a stable family life.

- (ii) greater casualisation of labour, their lack of skills and access to resources hindering their ability to branch off into self-employed, non-waged occupations to supplement declining work security in agricultural labour.
- (iii) increasing debts to meet family expenses and healthcare, their low financial capital forcing more Dalits to rely upon informal sources of credit, especially forward caste landowners. This dependency is further exploited by the dominant caste landowners by stipulating usurious interest rates that reinforce the dependency of Dalits on the dominant castes for work, providing a large, cheap labour pool to enhance the asset base of the dominant castes.
- (iv) an increase in non-savings expenditure, slowly eroding away at their financial and physical asset base.

How is the State responding to these new dynamics flowing from its policy changes? Under *Article 6 International Covenant on Economic, Social and Cultural Rights 1966* the State has the duty to safeguard each citizen's right to work to achieve steady economic, social and cultural development and full and productive employment under conditions safeguarding fundamental political and economic freedoms to the individual.

This duty is supplemented in the Indian context by *Article 46 Indian Constitution*, wherein the State should promote with special care the educational and economic interests of Dalits. Hence, reading these provisions together, the Andhra Pradesh Government should ensure that Dalits are specifically targeted through existing programmes to redistribute resources and to build up capabilities within the community so as to broaden opportunities for socio-economic mobility on par with the rest of the Andhra Pradesh citizenry. The government should also ensure that any policy interventions do not adversely affect Dalits livelihoods, but instead are formulated to allow marginalised communities such as Dalits to become equal players in fisheries development.

However, while Vision 2020 offers concessions and tax breaks to aqua farmers, along with greater infrastructure and development of the fisheries value chain, no attempt is made to address the caste-divided ownership patterns of livelihood capitals and resources. It is these patterns that will prevent a substantial sub-strata of the poor, the Dalits, from benefiting from aquaculture development. What government skills building programmes exist in the village such as DWCRA become mere palliative measures that do not seek to address key issues when aquaculture is sweeping in a range of adverse livelihood changes for Dalits, further hindering their inability to build livelihood capital.

Without addressing these inequalities and building capacities within the Dalit community, not only is livelihood insecurity deepening in the Dalit community, but the caste-class and market dynamics are excluding them from fisheries development opportunities. Denial of their fundamental right to adequate work to secure their livelihood is resulting in their further pauperisation. Left with little choices, they are then co-opted into the market, assimilated into the lowest rung of workers with no protective legislation or policies to ensure their workers' rights.

Right to Health

In addition to denial of their right to adequate work to secure a livelihood, groundwater and canal pollution caused by the unregulated release of pond effluents into the irrigation canal systems is having a significant detrimental impact on Dalits' health. Notably, health standards among this community are already significantly lower than that of non-Dalits. Their right to the enjoyment of the highest attainable standard of physical and mental health, as set forth in *Article 12 International Covenant on Economic, Social and Cultural Rights 1966*, is being infringed through denial of adequate quantities of safe drinking water, another fundamental right laid down in *Article 11* of the same Covenant. This right is one that entails an obligation of immediate fulfilment on the State, even where severe resource constraints exist, without discrimination on the basis of, among other factors, social or other status.⁴ A special obligation arising from this right is to provide those without sufficient means with water and

water facilities, and to give special attention to individuals and groups that have traditionally faced difficulties in exercising water rights.⁵

However, Nidamarru Dalits are the only community in the village that have been systematically discriminated against in access to potable drinking water, with four common tap connections for the 150 Dalit families woefully inadequate to meet their daily water needs. The result is that many are forced to continue to take water from the canals or the village pond to cook with, despite knowing this water is polluted and causes greater incidences of ill-health.

This in turn fuels a cycle of health-related expenditure, negatively impacting on the ability of the households to build up financial capital. The result is greater dependence on the informal credit market to bridge the gap between income and health-related expenditure. Moreover, where government medical systems are poorly operated and inadequately stocked with medicines, and primary health centres set to be privatised, most Dalits are pushed towards more costly privatised healthcare sources. This again fuels their rising debt situation. This cycle, however, does not exist with most of the non-Dalits of the village, who have access to separate taps or community taps in greater proportion to their population, though there is a definite need to expand the capacity of the village water tank. Moreover, possession of financial resources to meet health needs precludes most non-Dalits from great hardship to meet ordinary health expenses.

The government promises in its Vision 2020 to ensure ‘pollution free and environmentally friendly aquaculture’ through the formation of aqua clubs and the Brackish Water Users’ Association. But without adequate guarantees in the form of reservations to ensure access for Dalits to these committees, as with the Water Users’ Association currently operating in the village, Nidamarru Dalits will again face the problem of dominant caste dominance in these institutions precluding their right of say in accessing basic water needs.

The significance of this right to safe drinking water to ensure the right to health for a community whose main livelihood capital is their labour cannot be understated. Poor human capital – health, education

and skills - has been identified as one of the key hindrances to Dalits' capacity to improve their livelihoods. Where Dalits rely upon their labour strength to provide for their families, health-related loss of workdays in a scenario where workdays are already decreasing due to aquaculture exacerbates their poverty situation and hinders development of the community.

Right to Sustainable Development of Livelihoods

Finally, looking holistically at Dalit livelihoods, any sustainable development of livelihoods for this marginalised community in the context of aquaculture development must be rooted in economic reforms which set as their primary target the eradication of all social injustices, particularly those perpetrated on the basis of caste. By focusing on fisheries value chain and infrastructure development, and setting up institutions to build skills among aquaculturists, overall production may certainly increase, boosting the State's GSDP and fuelling greater development projects. However, with no emphasis on equality of opportunity for all in access to basic resources, education, health services, food, housing, employment and fair distribution of income, as laid down in *Article 8 Declaration on the Right to Development 1986*, no guarantees are set in place to ensure that Dalits become equal players in development.

Without appropriate protection mechanisms and pro-activeness on the part of the State Government, leaving Dalits to rely on a market controlled by the dominant castes and fuelled by caste inequalities in access to livelihood assets and opportunities will only exacerbate further deterioration of Dalits' right to livelihood. By contrast, ensuring the right to work and health, and building up human capital – education and skills – among the Dalit community, combined with government programmes to integrate this community into economic processes, will ensure that the essentials for sustainable livelihoods for Dalits are set in place.

Main Recommendations

A decade of intensive aquaculture operations in Andhra Pradesh is time enough to re-examine how fisheries policies and implementation processes have impacted on various sections of society, particularly

the poor and marginalised. While economic growth in the fisheries sector has occurred, the socio-economic costs have been borne to a large extent by those with the least access to livelihood resources, particularly Dalits who continue to face discrimination on the basis of work and descent.

A reorientation is, therefore, required by a government that professes commitment to enhancing livelihoods of the poor, to both protect and promote with special interest the socio-economic rights of Dalits and other marginalised sections of society so as to ensure their right to sustainable livelihoods in the context of the state's development. This can be achieved by:

- Short-term and long-term rehabilitation plans being evolved with the active participation of Dalits and other poor communities who have been adversely affected by aquaculture.
- The government developing a comprehensive plan to ensure alternative sources of income generation for Dalits and other affected agricultural labourer communities through enhancing their human capital by means of education and skills trainings.
- The government facilitating greater access to formal institutions of credit to break Dalits' dependence on informal sources of credit from dominant castes, as well as to allow them to access sufficient capital to branch into new livelihood activities.
- Developing aquaculture sites as cooperative ventures to provide a livelihood for Dalits and other poor, with adequate and sustained capacitation of these communities to enable them to operate in the market. Particular emphasis here should be placed on capacitating women from the target communities to undertake such ventures.
- Strictly implementing the *Water (Prevention and Control of Pollution) Act 1974*, the *Wildlife Protection Act 1972*, the *Forest Conservation Act 1980* and the *Environment (Protection) Act 1986*, with government officers and locals found responsible for violating these Acts stringently punished.
- Introducing reservations for Dalits in all local water bodies, especially the Water Users' Association, to ensure they too have a say in the management of water sources.

- Stricter control of pond effluent release into the canals by the Water Users' Associations and/or the panchayats, with a levy introduced for effluent discharge into the canals as well as penalties for those aqua pond operators who circumvent the controls. The levy can be utilised to provide greater drinking water access to the village population, particularly to those such as Dalits with the least access.
- Fully implementing land reforms and land ceiling laws to guarantee to every landless Dalit family at least 3 acres of land, registered in the name of the Dalit woman of the household.
- Better targeting of subsidies towards small and marginal cultivators such as Dalits, to enable them to increasingly earn their livelihood from their lands.
- Enacting a state legislation in partnership with Dalit and other agricultural labourer communities to protect the rights of agricultural labourers against exploitation and ensuring their minimum wages, equal wages for men and women, maternity benefits, adequate working conditions and social security.
- Ensuring that any policies, plans and programmes for aquaculture development make local Dalit communities, fisher communities and other poorer sections key stakeholders, to ensure that their livelihoods are protected in future developments.

Endnotes

1. Marine Products Export Development Authority (MPEDA), Kochi, 2000-01.
2. Commissioner of Fisheries, *Swarna Andhra Pradesh: Approach Paper on Fisheries Development*, Department of Fisheries, Government of Andhra Pradesh.
3. Marine Products Export Development Authority (MPEDA), Vijayawada, 1996.
4. Committee on Economic, Social and Cultural Rights, *General Comment no. 15: The Right to Water*, para. 13.
5. Id, paras. 15 & 16.

Chapter 3

Dominance in Agriculture at Dalits' Cost

“Andhra Pradesh will be a powerhouse of Indian agriculture, with a well-developed, efficient and productive allied sector and strong agro-industries... Agro-industry will create higher incomes, higher export earnings and higher employment in rural areas, thus stemming migration to the cities”

Vision 2020, Andhra Pradesh Government

Introduction to Andhra Pradesh Government's vision for Agriculture Development

Part I Kuppam Demo Project and Israeli Technology

- Implementation of contract farming demo project
- Disbursement of 2 KR and 3 KR drip irrigation schemes
- Socio-economic and political background to demo project and KR villages

Part II Impacts on Livelihoods: Benefits and Detriments

I. Right to Labour and Employment

- New occupations and technology transfer; changes for agricultural labourers and cultivators; changes to annual workdays; and shifting migration patterns

II. Changes to Natural Capital

- Land ownership patterns; shifting land markets; irrigation sources; access to common property resources

III. Physical Capital

- Status of ownership of livestock, agricultural equipment, modes of transportation and household goods

IV. Economic Capital

- Savings and loans; access to credit market

V. Human Capital

- Health and food security; education levels; and government skills trainings

VI. Social Changes in Caste Relations

Part III Overview Analysis: Human Rights Perspective

- Summary of key impacts of contract farming demo project, 2 KR and 3 KR schemes, particularly on rights to work, health and sustainable development and livelihoods
- Main recommendations

Andhra Pradesh has one of the largest agricultural sectors in the country, with a net cultivated area of 26.2 million acres and agricultural GSDP amounting to Rs.22,810 crore or one third of the total GSDP in 1995-96. In terms of livelihoods, agriculture is the primary occupation for over 70 percent of the state's population, with around 88 percent of the 55.2 million rural labour households in the state engaged in small-scale (one acre or less) farming, primarily for local markets and self-consumption.

Alongside this trend is a pattern of widely inequitable financial and natural resource ownership, particularly land ownership that falls primarily along caste lines, denying most Dalits access to land. Of the approximately one-third of rural Dalit labour households owning any land, around 66 percent operate less than one acre of land,¹ while 69.6 percent of all Dalit rural labour households are engaged primarily in agricultural labour to sustain their livelihood. Bearing in mind these dynamics characterising the state's agricultural sector to date, any policy changes to this sector have the potential for mass repercussions at varying levels for different local rural communities and especially vulnerable landless Dalit agricultural labourers and marginal farmers.

Vision 2020: Dominance in Agro-Industry

The Andhra Pradesh Government is in the process of modernising agricultural operations across the state's largest employment sector, promoting agro-industries as the major vehicle of growth for the agricultural sector in terms of performance, export earnings, employment and income. In its Vision 2020 for Agricultural Development, based on macro-economic policies of free trade, competition and efficiency of production, agricultural GSDP is to increase four-fold to Rs.90,000 crore by 2020-2021. An annual growth rate of 6 percent is envisaged for this sector, almost twice the current growth rate. Simultaneously, agriculture's share of the total SDP will decrease from 33 percent to 12 percent, and agriculture's share of employment will decrease from 70 percent to around 40 percent.

To achieve this massive overhaul of the agricultural sector, six key agricultural growth engines receive priority attention under these market-driven reforms, one being agro-industries. Three main changes to the agricultural sector to facilitate development of agro-industries are stated to hold the key to productivity growth:

1. Consolidating fragmented farming operations;
2. Fostering research and development; and
3. Encouraging the use of modern technology.

Consolidation of landholdings is touted as the solution to current difficulties faced by farmers in raising resources and marketing their products, by scaling up farming operations to increase productivity and market access. Two methods are given: farmers' cooperatives and contract farming, the latter to allow companies to work closely with farmers for 'an assured low-cost, high quality agricultural produce.' Under contract (or corporate) farming, the corporate sector is encouraged to enter into contracts with farmers whereby select crops will be grown by farmers under a 'buy back' agreement with the corporation in export-oriented agricultural produce trading or processing. In return, farmers who take up contract farming are promised an assured market, superior inputs, technical advice, technology transfer and financial assistance.

This change, bringing about massive restructuring of the agricultural sector, is to be complemented by encouraging research aimed at facilitating development of new crop varieties, tools, equipment and technologies. The government's role will be to facilitate this process through appropriate policy reform and ensuring technology transfer through extension services. It will also set up institutions and processes to provide local farmers, particularly poor and marginal farmers, with working capital to transform their landholdings into profitable ventures. In this process, emphasis is placed on ensuring that women gain their share of the benefits of development through skills building and technological benefits.

The use of modern technology in farming, post-harvest operations and processing will complete this transformation of the state's agricultural sector into a dominant player in Indian export markets. With Andhra Pradesh already the second largest producer of fruits and vegetables in the country, cash crops and foodgrain production would thus grow to 19.4 million tonnes by 2004-2005, with overall agricultural sector growth quadrupling from Rs. 22,810 crores to Rs.92,500 crores by 2020.

According to the Strategy Paper on Agriculture and Allied Departments, released by the State Government in January 2001, in light of Vision 2020's ambitious goals the contract farming experiment

carried out at Kuppam is set to be replicated in other areas. That is, degraded forest lands and government lands are to be handed over to companies for wide-scale contract farming across the state. Moreover, 'superior [drip] irrigation systems of Israelis' will be promoted to reduce wastage in water resources application. With the promise of sustainable agricultural livelihoods for farming communities, particularly poor and marginal dryland farmers, being the envisaged outcome of contract farming, it occasions inquiry as to what extent the Kuppam experiment was able to transform the livelihoods of participating farmers. Have different sections of poor and marginal farmers, particularly caste-discriminated Dalits, been able to access any long-term benefits from this experiment such as drip irrigation or increased market linkages? And how have the livelihoods of agricultural labourers, again many being Dalits, been affected as an outfall of contract farming and the subsequent introduction of drip irrigation systems?

Kuppam Demo Project and Israeli Technology

A. Demo Project

Acclaimed as *A Showcase of Appropriate Technology and Systems*, the Kuppam Pilot Project or Large Scale Advanced Farm Project, commonly known as the Demo project, was approved by the State Cabinet in September 1995. An agreement was signed with BHC Agro (India) Private Limited (herein referred to as BHC Ltd) two years later. BHC Ltd, in conjunction with the Rural Development Department, Agriculture and Allied Departments, introduced an Israeli cooperative model of agriculture with upgraded cultivation systems using Israeli technology in Cheldiganipalli village in Ramakuppam mandal of Chittoor district, situated near the town of Kuppam.

The aim of the project, according BHC Ltd's Project Report note, was to make a commercial demo farm for contract farming growing new intensive crops based on modern agricultural methods and equipment and managed by one hand. The farm would demonstrate the capabilities of modern agriculture productivity and embedded potential for this area in terms of improvements to land cultivation and agricultural yields. At the end, it was to have created a new production platform for carrying out production to export markets, while the project would be handed over to the farmers or some local

managerial body. By proving the viability of contract farming, it would thereby pave the road for large-scale contract farming ventures across the state, thus linking up with the Vision 2020 policy thrust for agriculture released by the State Government in 1999.

The project was first introduced to the Cheldiganipalli villagers in 1996. The C.M. Special Officer and Mandal Development Officers accompanied Israeli agricultural scientists to Cheldiganipalli to request the villagers to give their lands for the Demo. Most farmers in the village were sceptical of the proposal, fearing that they might lose their lands. However, the Israelis persisted with a series of around 10 village meetings, explaining about the project and finally promising that if some farmers gave their lands, within three months they would produce thrice the present crop yields. Thereafter, 167 farmers agreed to give lands for the Demo. Around 70 percent were backward castes giving 63 percent of the land, 12 percent were forward castes giving out 26 percent of the land, while 16 percent were Dalits giving 6 percent of the land and one Muslim family gave 5 percent of the land (*Table 1*). Notably, while non-Dalits were able to give a small portion of their lands to the Demo, having the greater landholdings, most Dalit families possessed less than half an acre of land, and hence gave all their land to the Demo project.

Table 1 Community Break-up of Land Leased out to Demo

	Dalit	Backward Caste	Forward Caste	Muslim	Total
No of persons leasing out land for Demo	27	119*	20*	1	167
Land given to Demo	14 acres	138.5 acres	56.6 acres	11 acres	220 acres

*Approximate numbers given, as presented by the people given that no official caste-wise break up of farmers is available

In return, an oral contract was entered into whereby all farmers leasing out their lands, cultivated or otherwise, to BHC Ltd would receive a fixed lease amount paid in tri-monthly instalments by cheque. This amount rose in increments over the five years of the project from Rs.3,000 to Rs.11,000 per acre. Those with borewells and open wells already laid in their fields received an extra Rs.5,000.

Therefore, unlike the contract farming model espoused by the government's Vision 2020 policy, the Kuppam experiment saw farmers' involvement reduced down to solely agricultural labour in the Demo fields. Management of the project lands, farming and marketing operations at all stages lay in the hands of BHC Ltd. No contract was entered into allowing participating farmers a share of the profits.

While a gross area of 197 acres was reported as acquired for the project,² the net cultivated area stood at 170 acres, divided into two blocks with separate irrigation facilities. Crop rotation of 24 crop species with high fertiliser and pesticide inputs ensured three crops per year, the major crop being gherkin, but with wide ranging vegetable crops grown being onion, tomato, potato, capsicum, chilli, beans, peas, beetroot, okra, carrot and coriander, and field crops such as groundnut, baby corn, sunflower and gram pulses. The crops were then sent to a 24-hour processing plant in Bangalore, three hours away, which pickled and canned them for markets in USA, Canada and Israel.

From levelling land in both blocks to deep digging, sowing and sprinkling of pesticides, tractors were brought in to supplant manual labour, with agricultural labourers concentrated in harvesting operations, cleaning of produce and loading it onto trucks for transportation to food processing units. Many of the 167 families in the village were engaged in the Demo project as agricultural labourers, especially Dalits and backward castes. Other labourers were also brought in from neighbouring villages to meet the requirements of the intensive cropping pattern introduced onto the project land. In total around 400 labourers were employed in the Demo project fields per day, 75 percent of whom were Dalits.

The total gross income accruing from the project after one and a half years was claimed to be Rs.15 million, with Rs.2.9 million accruing as income to the 167 farmers involved in the Demo during that period. The company charged Rs.28.1 million (Rs.5.6 million per annum) for technology transfer over the five years of the project from 1997 to 2002, while infrastructure costs ran to Rs.54.4 million. However, an expert study team from the Andhra Pradesh Coalition in Defence of Diversity calculated that the estimated cost of the project, pitched at Rs.96.367 million by its third year 1999-2000 on 170 acres, worked out as Rs.477,400 investment per acre for the State Government. This order of investment was 'ten times more than that of even rich

farmers adopting modern intensive cultivation practices.’³ Costs of agricultural inputs were never shared with those farmers leasing out their lands for the Demo, though average cultivation costs - seeds, fertilisers, agro-chemicals, power, fuel and labour - ran to around Rs.20,000 per acre.⁴

The project ended in May 2002, though the farmers’ lands were kept for a further six months without any lease payment while surveys and evaluation tests were done by government and BHC Ltd officials. This being the case, most farmers had only got back their lands in September or October 2002, some six or seven months prior to this study, many larger scale dominant caste farmers awaiting the monsoon rains before commencing cultivation once more on returned lands.

B. 2 KR⁵ and 3 KR Drip Irrigation

Following from the alleged success of the Demo project, the State Government then announced a series of related minor irrigation schemes using the Israeli-developed drip irrigation. In the 2-KR phase introduced in 1998, funded to the tune of Rs.60 million by the Japanese International Cooperation Agency, participating farmers received 100 percent subsidies for the introduction of drip irrigation into their fields. The State Government spent Rs.128.7 million on technology transfer and infrastructure development. Certain conditions were imposed on farmers to receive the benefits of the 2-KR scheme:

1. Minimum of seven acres land and a borewell were required to fit a separate drip irrigation system. Otherwise, farmers were invited to join together as a group to fit one system onto their lands.
2. Farmers were not allowed to grow water-intensive sugar cane and paddy using the 2-KR drip systems.
3. Supply and repairs of drip system parts were done exclusively through BHC Ltd, though cheaper piping was available in Bangalore.

Boasting that drip irrigation would show results of 35 percent higher agricultural production, 30 percent water saving and increasing ability to bring land under cultivation, 679 farmers in 55 villages across four mandals of Chittoor district were granted drip irrigation on a 1,686 acre extent of land. However, while the scheme was aimed at

small and marginal farmers on paper, it was translated into mostly the larger landholding forward and backward caste communities seizing all the benefits. This was due to their prior access to information about the scheme, as well as their larger landholdings and financial capital affording them greater ability to risk introducing the new technology on their lands.

Moddalayanka was the second village to receive drip irrigation under the 2-KR scheme in Ramakuppam mandal in 1998, with a total of 21 farmers – 5 backward castes and 16 forward castes – granted drip irrigation on around 50 acres of their lands. Again, the C.M. Special Officer and Israeli agricultural scientists visited the village to explain about the scheme and drip irrigation system. Farmers were invited for an exposure visit to nearby Nakkalapalli village, where the first lot of drip irrigation under the 2-KR scheme had been successfully implemented in the fields of the dominant caste farmers of that village. In this way the Moddalayanka farmers saw for themselves the increased yield benefits before deciding whether to participate in the 2-KR scheme or not, and a series of meetings afterwards consolidated their understanding of drip irrigation's benefits. What also aided the dominant caste farmers to agree to this project was access to information about the project through their dominant caste Mandal Praja Territorial Committee member, Jayaram Reddy, who could then guide the dominant caste villagers as to how to access drip irrigation benefits and linked sericulture subsidies.

By contrast, three main factors played a role in preventing Dalits from Gandhinagar from accessing the scheme: first of all, their small landholdings and lack of borewells, most owning less than the required seven acres of land with no borewells; secondly, financially less secure or insecure Dalits had more to lose than non-Dalit farmers by implementing the scheme which would cut across all their lands; and finally, Moddalayanka non-Dalit farmers were first informed about the 2-KR scheme and shown its results in Nakkalapalli village, whereas the Gandhinagar Dalits were only approached later on in meetings, leaving them little time to assess the risks and benefits involved in this scheme before the closing date for applications came. Only after the implementation of the scheme in Moddalayanka did many see firsthand the benefits of drip irrigation, but by then it was too late to apply for the scheme.

In the initial stages only those farmers meeting the strict requirements and with enough land to risk implementing new technology came forward to take up this offer, mostly forward castes. However, once the news of irrigation water conservation combined with higher crop yields spread across the district, many more farmers clamoured for the benefits of the drip irrigation system. Hence, in 2001-2002 the State Government introduced the 3-KR scheme, whereby farmers were offered a 50 percent subsidy to introduce the drip irrigation systems on their lands, costing the government Rs.465 million. To date around 2,100 farmers in 280 villages across five mandals in Chittoor district have entered into agreements with the government to cover around 10,000 acres of land with drip irrigation. The government's target is set at around 20,000 acres under this scheme, with numerous applications pending before the Agricultural Department. The unit cost per acre for the 3-KR drip system is Rs.40,000, of which half is subsidised by the government and the remaining Rs.20,000 usually taken as a bank loan.

Being only half subsidised, stringent requirements are to be met before 3-KR applications are accepted:

1. A minimum of three acres of land and one borewell is required, either held individually or as a group, to receive the 3-KR system benefits. Where the applicant farmers have no borewell, the minimum landholding rises to nine acres.
2. No outstanding bank loans, confirmed by a 'no due' certificate from the bank.
3. Possession of land patta documents and proof of income certificates.
4. A simple land evaluation mortgage certificate.
5. Guarantee of non-default on bank loan repayments for the remaining costs. Repayments are made over an eight-year period, with 11 percent per annum interest accruing on the loans.
6. Supply and repairs of drip system parts are done exclusively through BHC Ltd, though cheaper piping is available in Bangalore.

As with the 2-KR scheme, the target group for the 3-KR scheme is clearly stated to be small and marginal farmers. However, in Ramakuppam mandal alone, as at April 2003 of the 193 applications

received for the 3-KR scheme, over 50 percent were from forward castes.⁶ No reservations for Dalits are allotted under the scheme, despite most Dalits being small and marginal landholders, if possessing any land at all. Instead, many of the scheme's conditions, particularly the minimum landholding sizes, borewell requirements and absence of loans, prevent capital-poor Dalits from access. This fact was borne out in Konganapalli village, where currently 20 dominant backward caste families have been granted 3-KR drip systems, while a further 10 have applied for the scheme. By contrast, of the approximately 80 Dalit families in the village, only nine have applied for the 3-KR scheme, 60 families being ineligible due to the no-loans stipulation. Likewise, many of the Adivasis of P.V. Puram are in the same position as the Dalits of Konganapalli, with most ineligible for the 3-KR scheme for the same reason. Only six have applied for the scheme at the start of the year, with no news as yet as to the status of their applications.

However, according to some non-Dalits farmers, while yields and water conservation may have increased, there have been drawbacks to the 3-KR scheme. In particular, while on paper the per acre costs of implementing drip irrigation is Rs.40,000, many farmers are finding that actual costs per acre are almost double this, that is, Rs.80,000. Hence, while the bankbooks may show 10 acres under this scheme, for many farmers the actual coverage is only 5 acres. This is particularly so as under this scheme, as with the 2-KR scheme, BHC Ltd is again contracted to supply all drip piping, which it does at the cost of Rs.9 per metre, or approximately Rs.10,000 per acre. However, this is exactly double the cost of drip piping sold by suppliers in Bangalore, which farmers cannot access due to BHC Ltd's sole monopoly over the drip piping supplies under the 3-KR scheme.

All this aside, applications continue to pile up for the 3-KR scheme, and in April 2003 the State Government moved one more step ahead, announcing a 4-KR scheme with 50 percent subsidies again being given. Conditions for this scheme are as yet unavailable. Moreover, with former Andhra Pradesh Chief Minister Chandra Babu Naidu sitting as Chairperson of the National Commission for Minor Irrigation, the aim has been to showcase this irrigation technology in the state as a model for minor irrigation development throughout the country, with an estimated Rs.1,170 crore to be allocated at the national level.

Socio-Economic and Political Background to Study Villages

Cheldiganipalli village, headquarters for Cheldiganipalli panchayat, lies approximately 7 km from Ramakuppam along a main road. The village comprises around 145 families, the majority caste community being the backward castes (Barber, Kalai, Valmiki, Ganla). Dalit families (Mala, Madiga) number 35 or 24 percent of the village population, backward castes 90 or 62 percent, forward castes (Reddy, Brahmin) 13 or 9 percent, and Muslims around 7 or 5 percent. Around 750 acres of land belong to the villagers, mostly non-Dalits, with common property resources of revenue wastelands, three village ponds and forests accessible to all.

Moddalayanka village comprises only non-Dalits, with 15 backward caste (Vadde Boya) families, 20 forward caste (Reddy) families and one Muslim family presently residing in the village. One km along a dirt road leads to the adjacent Dalit village of Gandhinagar, comprising 150 Dalit (Mala) families. A clear relationship exists between the two villages, with most non-Dalits being cultivators who call only Dalit agricultural labourers from Gandhinagar to their fields.

Konganapalli village is inhabited by 82 forward caste (30 percent of households), 90 backward caste (34 percent), 5 Adivasi (2 percent) and 85 Dalit (34 percent) families. By contrast, P.V. Puram, lying on a dirt road around 4 km from Ramakuppam, is home to 40 Adviasi (Yanadi) families. Living by forest lands, minor forest produce gathering is a major occupation for the Adivasis, along with agricultural labour in the forward caste Reddys' fields in the nearby village of Gaddur.

Socio-economic disparities between Dalits and non-Dalits are clearly visible when viewing standards of living. Only nine Dalit houses (36 percent) are *pucca* constructions, as compared to 17 non-Dalit houses (68 percent). In terms of access to basic amenities, all non-Dalits have electricity in their houses as compared to only 16 Dalit households (64 percent) surveyed. Likewise, potable drinking water facilities for all Dalit households surveyed consist of either community taps or wells, while 15 non-Dalit households (60 percent) enjoy separate taps or wells, with the remaining 10 households (40 percent) accessing a community tap or well. And while only two Dalit houses (8 percent) have toilets within the house, 15 non-Dalits

(60 percent) enjoy this facility. Thus, even the majority of government subsidised housing for Dalits does not incorporate basic conditions of toilet facilities into the subsidy.

The main traditional livelihood occupation of Dalit men and women in the villages is waged agricultural labour, working in the lands of the dominant caste landowners. Most hold marginal or small landholdings, cultivation of which is insufficient to maintain their families, while around 10 to 20 percent of Dalit households in the villages are without land. The main crops grown are *ragi* (millet), *jowar* (great millet), groundnut and horsegram. Many Dalits supplement agricultural labour in their respective village fields with agricultural labour in the neighbouring villages. Only in Moddalayanka, due to the large population of Dalits in neighbouring Gandhinagar, did the majority of Dalits find sufficient work in the non-Dalits' fields throughout the year prior to the 2-KR scheme, with agricultural labour from Moddalayanka drawn exclusively from Gandhinagar.

Of the 50 households surveyed, already in 1990 prior to the Demo, 2-KR and 3-KR schemes there was a clear distinction between Dalits and non-Dalits in terms of livelihood occupations. The majority of Dalits were waged agricultural labourers (80 percent), while the majority of forward castes and backward castes were landowners - cultivators (84 percent). Among non-Dalits, only one Muslim engaged in agricultural labour, while all the Adivasis followed their traditional occupation of minor forest produce gathering. For Dalits, only three households engaged in cultivation, while two households engaged in non-agriculture occupations. Another main difference emerges when one compares the annual number of workdays Dalit agricultural labourers and cultivators had as compared to non-Dalits in these two occupations, with Dalits having between two-and-a-half to three months less work per year than non-Dalits.

Again, when one considers secondary occupations, non-Dalits were mainly concentrated in self-employing and higher remuneration occupations such as milk vending, money lending, business and cattle selling. By contrast, aside from minor cultivation for 12 Dalit families, Dalits were mainly concentrated in low-waged labour work, either in the fields, brick kilns or in construction work. Waged work also

brought in a lesser number of annual workdays, hence lesser wages and less permanency than self-employed jobs where non-Dalits were concentrated.

Forward caste Reddys dominate village socio-political life in former Chief Minister Chandra Babu Naidu's constituency of Kuppam. They wield power in terms of local politics and are the majority landholders, making many Dalits dependent on them for their livelihood through agricultural labour. Otherwise, social interaction between Dalits and other castes remains confined to markets, shops and hotels, with Dalits not allowed to enter the forward castes' houses.

Varying forms of untouchability and caste discrimination continue to taint Dalits' lives in the villages. When it comes to employment in the dominant castes' fields, segregation in the fields in terms of separate eating arrangements, glasses, plates and drinking water for Dalits is still maintained. Cheldiganipalli and Gandhinagar Dalits today are still poured drinking water into their hands by the dominant castes, while in the Cheldiganipalli tea shops the two-glass system is still practised as far as Dalits from the village are concerned, their tea being poured from above into glass tumblers instead of the usual steel tumblers. Otherwise, standing in the presence of the dominant castes is a norm for most Dalits in the villages, as is accepting derogatory language from the dominant castes when being addressed by them.

When Cheldiganipalli Dalits work in the forward caste Reddys' houses, they occasionally receive a glass of coffee in a separate glass kept for them. That glass is to be returned to a separate wall, and if the Dalits forget to do so, the forward caste women will pick up the Dalit's glass with a stick and place it in a fire for some time to cleanse' it.

Gandhinagar Dalits also continue to be not allowed entry into the PDS ration shop located in a neighbouring village and owned by a dominant caste. They are regularly cheated there by being given lower ration quotas (less than their 25 kg rice quota) due to their caste. In 1990 the dominant caste moneylenders similarly cheated them by demanding a lower price for the Dalits' crops as repayment for loans. Today, many Dalits have shifted to the dominant caste landowners for their credit needs, but the same cheating practices

for loan repayments continue, as they do in Konganapalli village as well. And in Gandhinagar to this day non-Dalit washermen refuse to wash Dalits' clothes, drawing a clear untouchability line when it comes to offering basic services to the village community.

In terms of political participation in local governance, while almost all Dalits and non-Dalits vote in the panchayat elections, only in Konganapalli village is the panchayat president a Dalit man. In Cheldiganipalli only one Dalit man is a ward member out of seven members and in Gandhinagar one Dalit woman is currently a ward member on the panchayat records, though she regularly is left out of panchayat decisions and not informed of panchayat activities. Otherwise, non-Dalit men clearly dominate local governance institutions in all the villages, ensuring that Dalits do not have much say in local decisions affecting them and implementation of development schemes.

This situation is further being emphasised with the introduction of parallel village committees promoted by the Andhra Pradesh Government. While Dalit and women's participation in village Vana Samrakshana Samiti (VSS) Forest Committees, Mothers Committees, Education Committees and Savings and Credit (SHG) Groups is visible in terms of numbers at least, in committees which decide allocation of vital resources such as water, Dalit participation is again reduced to one or two members. In Cheldiganipalli, the Tank Users' Association has only one Dalit male member, while in Gandhinagar only one Dalit man is part of the Watershed Committee in the village.

By contrast, relative equality exists between other social caste groups of the village in terms of access to committees, population instead dictating more who participates in the village committees. Only in the case of Adivasis from P.V. Puram does the same pattern of minimal political participation appear.

Hence, when lower livelihood levels combine with the low socio-political assets of Dalits and Dalit women in particular due to continuing practices of caste and gender discrimination, the question arises as to how much this community is then able to access any opportunities or benefits that arise out of projects such as contract farming.

Impacts on Livelihoods: Benefits and Detriments

I. Occupational Changes

New Occupations and Technology Transfer

A. Demo Project

The Demo project brought with it a significant change in work activities, with new job opportunities arising, as well as a shift in work habits under this intensive form of cultivation. As aforementioned, however, all managerial positions remained with the company officials and scientists. Aside from four irrigation managers, all non-Dalits, no other technical positions were allotted to the local farmers. In terms of caste-wise allocation of new salaried work opportunities, only 13 percent (two jobs) went to Dalits and the remaining 87 percent (15 jobs) to non-Dalits. Moreover, the one Dalit supervisor was removed after six months for demanding payment of wages to the agricultural labourers (*Table 2*).

What most Dalits were concentrated in was agricultural labour, forming 75 percent of the 300 to 400 agricultural labourers working daily on the project lands. Their work concentration was spread across fitting the drip systems, harvesting, cleaning produce and loading lorries with vegetable produce, all manual labour jobs that required acquisition of no new skills.

Table 2 New Jobs in Demo

Jobs in Demo Project	Monthly Wages	No. of Dalits	No. of Non-Dalits
Manager	n/k	Israelis, living in 5-star hotel in Kupparam town	
Supervisors	Over Rs.10,000	10 BHC Ltd employees, being agricultural scientists from outside the area	
Labour Supervisors	Rs.3,000	1 (only for 6 months)	3
Irrigation Managers	Rs.3,500	--	4
Tractor Drivers	Rs.3,000	1	4
Jeep Drivers	Rs.4,000	--	4
Agricultural Labourers	Women - Rs.1,200 Men - Rs 1,500	75 %	25 % (mostly backward castes and a few forward castes)

The assumption in Vision 2020 of technology transfer spreading to the local villagers through contract farming was non-existent in the case of the Demo project. BHC Ltd closely guarded its project from independent queries despite the project being titled a 'demonstration' to showcase new agricultural technologies. None of the Cheldiganipalli villagers were ever told the costs or quantity of inputs required for intensive cropping. What they were introduced to at the start of the project was the drip irrigation system and sowing and ploughing techniques, the latter two activities already known to all local farmers. However, in terms of quantities of fertilisers and pesticides poured onto the Demo project lands, supervisors would silence all such queries with threats to Dalits and other labourers of discontinuing use of their labour.

B. 2-KR and 3-KR

By contrast, with the consequent 2-KR and 3-KR drip irrigation schemes, Israeli agricultural scientists closely interacted with farmers to ensure capacitation training. Farmers learnt how to operate the drip irrigation system and how to discern and fix any minor problems in the system. Here, the only new job for a cultivator was to turn on and off the water valves and check the pressure gauges, removing around one month's work in watering the fields from the hands of agricultural labourers. Once the drip systems were set in place, in Moddalayanka village three Atma groups have been formed of all those with drip irrigation. They receive regular advice from Agricultural Department officials on irrigation development and agricultural machinery utilisation.

Effect on Agricultural Labourers

A. Demo Project

Prior to the Demo project, most Cheldiganipalli Dalit families worked as agricultural labourers for the dominant caste landowners of the village. Their seven-hour workdays earned them a daily wage of between Rs.15 to Rs.25 for women, almost Rs.10 less than their male counterparts, who earned between Rs.20 to Rs.30 per day for the same type of work. Around 100 Dalits were employed in the dominant castes' fields for an average 180 to 200 annual workdays, where they endured various untouchability practices, lack of decent working conditions and irregular wage payments (*Table 3*).

Table 3 Agricultural Labour Patterns for Dalits prior to and during Demo

	Labour in Dominant Castes' fields	Labour in Demo
Annual workdays	Average of 180 - 200 workdays	Average of 300+ workdays
No. of work hours per day	7	9.5
Working hours	9.00 a.m. - 5.30 p.m. with 1.5 hour break + lunch provided by landowner	7.00 a.m. - 6.00 p.m. with 1.5 hour break + lunch had to be brought initially, though soon changed to BHC Ltd providing lunch to ensure labour supply
Daily wages	Rs.15 - 25 for women Rs.20 - 30 for men	Rs.40 for women Rs.50 for men
Wages for overtime work	Extra meal	Rs.25 for work from 6.00 - 10.00 p.m., mainly for loading harvest onto trucks
Payment regularity	Paid only once every 2-3 months	Paid weekly wages, though towards end of Demo projects payment became irregular, stretching up to 1 month
No.of Dalits getting agri. labour work	Around 100	Around 200 - 300
Presence of child labour	Yes	No
Working conditions	No medical assistance provided on worksite and no rest if unwell	Medical assistance provided on worksite and allowed rest if unwell
Untouchability practices	Separate seating for meals and water arrangements in fields	None, except for separate seating arrangements at meal times practised by non-Dalit agricultural labourers in fields

In this way, the Demo project had an immediate benefit in terms of assured agricultural labour work for two to three members in every Dalit family, who formed 75 percent of agricultural labourers. This thereby lessened child labour caused by insufficient income generation in a family. For the five years of the project, this year-round work brought in fairly regular weekly wage payments with wage rates that were double that which the Dalits had received under the dominant caste landowners. However, again gender discrimination between women and men was practised, women receiving Rs.40 and men Rs.50 for the work. In addition, this wage increase in itself

was a little deceiving, as agricultural workdays increased by 2.5 hours per day under the Demo project, with the work involving harder manual labour than in the dominant castes' fields.

Timings were very strict on the Demo project, with people turned away from the fields who did not report for work by 7:00 a.m., and there were occasions where an excess of labourers meant many were turned away from work in the Demo for that day. Overtime work was done when harvested crops had to be loaded onto lorries at nights for transportation to export food processing units. This earned agricultural labourers a further Rs.25 for an additional four hours' work, whereas the dominant caste landowners had merely given extra meals for overtime work done at harvesting and post-harvest times.

What many Dalit agricultural labourers appreciated about the project were both social and economical aspects attaching to the Demo work. Economically, not only did their wages increase, no matter the longer hours and harder work, but basic working conditions such as regular wage payments at least at the start of the project, medical aid on the worksite and being excused from work if feeling unwell were provided. What was an additional benefit for the Dalits was that the Israelis did not differentiate along caste lines between Dalits and non-Dalits, interacting with the Dalits and drinking water with them, thus breaking caste taboos. This latter social aspect made a lasting impression on many Dalit agricultural labourers, indicating the strength of caste oppression that operates in a local village context.

Post-Demo

However, with the completion of the Demo project and the lack of longer term benefits – new skills or occupations in allied sectors, etc. - accruing from the project for agricultural labourers, many Dalits are branching out into various agriculture-related works to tide them over until the next monsoon when the dominant castes will begin to cultivate their lands once more. Substantial livelihood changes have not been realised for this community, with the increased income during the project years having been absorbed mostly into greater consumption-oriented expenditure without a growth in capital, long-term assets or savings.

Many Dalits are now temporarily undertaking agricultural work in the dominant castes' fields in the neighbouring areas, returning to

working conditions and wage rates as set prior to the Demo project. Others have moved into collecting and selling tamarind from the roadsides, each kilogram of tamarind being sold for Rs.2 to Rs.3 with a daily load of 5 to 10 kg being collected. A small number of families have migrated to the brick kilns in Bangalore to tide over their families until the next agricultural season, while only around 30 Dalits are continuing to find work in the Cheldiganipalli dominant castes' fields. Otherwise, some Dalits are now participating in the government's 'Food for Work' programme, though many complain that they are cheated by government officials, who are supposed to give 8 kg per day of rice, but instead are giving them 7 kg per day.

Many Dalit Malas expressed that did not know what they would do if the drought continued for another year and the rains did not come. Their fear is that the dominant castes will decrease agricultural labour requirements as a result of both the drought and the fact that less groundwater appears available due to the high volumes of water utilised to irrigate the Demo fields. This would leave them with only one option, to migrate out of the village in search of agricultural work or other waged manual labour work such as brick making, earthworks or construction work.

B. 2-KR and 3-KR

Under the 2-KR and 3-KR drip irrigation systems, however, agricultural labourers have been clearly on the losing end in terms of drastic cuts to their workdays and increased workloads. Not only has the one agricultural labourer per acre who used to be employed to water the fields been rendered jobless by the mechanised drip irrigation system, but per acre labour requirements in general have also decreased. Almost all crops, barring beans and tomatoes, now require between two to ten less labourers per acre, while labour intensive gherkin cropping is now being put aside in favour of less labour intensive vegetable crops.

Moreover, workdays have in general reduced for most agricultural labourers. Taking Moddalayanka and neighbouring Gandhinagar as an example, the number of Dalit agricultural labourers being employed by the non-Dalit landowners has decreased from around 150 to less than 50, mostly women labourers, after the introduction of drip irrigation. Workdays have also decreased by around 27 percent or 80 less workdays for Dalit women agricultural labourers and by

around 75 percent or 150 less workdays for Dalit men agricultural labourers. Combined with this is an increasing workload and an additional two hours of work per labourer per day with a Rs.5 (for men) to Rs.10 (for women) increase in wages. Therefore, the emerging pattern due to drip irrigation is greater work extraction from a downsized agricultural labourer workforce. This translates as not only Dalits losing their ability to generate enough income to sustain their families, but also greater exploitation of their labour (*Table 4*).

Table 4 Dalits' Agricultural Labour Patterns prior to and during Drip Irrigation

	Prior to introduction of Drip Irrigation in Dominant Castes' fields	After introduction of Drip Irrigation
Annual workdays	Average of 300 for women Below average for 200 for men	Average of 120 for women Average of 50 for men
No. of work hours per day	6.5	8.5
Working hours	9.00 a.m. - 5.30 p.m. with 1.5 hour break + lunch provided by landowner.	8.00 a.m. - 6.00 p.m. with 1.5 hour break + lunch provided by landowner
Daily wages	Rs.20 for women Rs.35 for men	Rs.30 for women Rs.40 for men
No. of Dalits getting agri. labour work	Around 100 - 150	Less than 50, mostly women
Changes to per acre labour requirements: - mulberry - tomato - chilli - beans - rice paddy - sugar cane	5 labourers 5 labourers 6 labourers 10 labourers 15 labourers 15 labourers	3 labourers 5 labourers 2 labourers 10 labourers 5 labourers less than 10 labourers

Effect on Cultivators

A. Demo Project

Post-Demo, those cultivators who gave their lands to the project have begun to understand the full implications of intensive cropping with high fertiliser and pesticide application. With BHC Ltd returning

their lands six months after the end of the project, only a few have started cultivation of their lands. However, many cultivators have noticed how up to two feet of topsoil on their returned lands is no longer as fertile as prior to the Demo. This fact alone stands in direct contradiction to the Andhra Pradesh Government's claim to have improved soil quality for dryland and uncultivated wasteland. Dalit cultivators in particular were cultivating their marginal plots of revenue wasteland allotted by the government prior to the Demo with successful dryland crop yields that at least matched their input costs. According to the Dalit Malas, groundnut yields were 15 to 16 bags per acre, *ragi* (millet) averaged about 5 to 10 bags and horsegram yields were 1 to 2 bags per acre. They emphasise that their land was semi-fertile prior to the Demo and less so now. Hence, their ability to earn whatever income from their small plots of land has been adversely affected by the Demo project.

Dalits Subramaniam and Laxmi Devi are both cultivators on their 1.5 acre plot of dryland. After the return of their land by BHC Ltd in September 2002, Subramaniam has tried half a dozen times without success to sow a tomato crop. He attributes this to the poor soil quality rendered by the Demo project, and he is not in a financial position to apply heavy fertiliser and pesticide cropping techniques. Government officials and scientists may well excuse this as lack of farmer knowledge about new cropping patterns, but then, if the Demo project was all about technology transfer and imparting new and improved cropping techniques to farmers, why is it that particularly poor, marginal Dalit farmers have been denied this right to information and capacitation from the Demo project?

Previously, most cultivators concentrated on production of dry land crops such as *ragi*, horsegram, *jowar* (great millet) and groundnut, organic fertilisers such as cow manure much in use. Due to erratic rainfall patterns in the region only those with wetland (tank bed land) or borewells, mostly non-Dalits, planted water-intensive sugarcane and rice paddy crops. However, the Demo has disrupted these patterns, the soil being now more amenable to vegetable cropping with the appropriate high concentrations of fertilisers and pesticides. To follow the Demo model for agriculture would require almost an 80 to 90 percent increase in capital investment for farmers. While dominant caste farmers are by and large able to invest in this new cropping pattern with its high yield benefits, lack of financial capital prevents Dalits from following suit. This is being already seen

with the few dominant caste cultivators who have started vegetable cultivation – tomatoes, beans, gherkin – using the drip irrigation systems laid out on their lands.

In this manner, a catch-22 situation has arisen for the Dalit marginal cultivators, for neither can they afford to shift to the new higher profit crops due to lack of working capital, nor can they afford to invest money in silt and manure applications to return their land over a two- to- three year period to its original fertility and cropping capacity. Faced with no other viable alternative, increasingly Dalits are left to move into agricultural labour as their main source of livelihood. Around three of the poorer Dalit families have since sold their drip irrigation piping provided by BHC Ltd for marriages and to meet family expenses.

Many backward caste cultivators complain that while they were all promised drip irrigation, in effect only about half were left with drip systems. Meanwhile, all but two Dalit and two forward caste families got drip irrigation. The company supervisors were left to arbitrarily decide which lands would retain drip irrigation, the only guideline appearing to be that each caste community should receive some drip irrigation to prevent tensions rising in the village. The remaining drip piping was then removed to facilitate the introduction of the 3-KR scheme in the area. There are also allegations that BHC Ltd supervisors sold off much of the piping prior to the farmers getting back their lands. In addition, the highly political nature of this project meant that those with political power in the village, namely the forward castes, were able to ensure the most benefits accrued to them in terms of drip irrigation, though many still assert that they should have received a share of the Demo profits from BHC Ltd.

Though the majority of Dalits got drip irrigation due to their ownership of marginal plots of land, without sufficient borewells to connect up the systems irrigation still remains a problem for most Dalit cultivators. All but a few Dalits in Cheldiganipalli do not possess wetland or land irrigated by borewells, as compared to the majority of non-Dalit cultivators who own most of the tank bed land or at least possess borewells or open wells. Disregarding these dynamics of differential access to irrigation resources, out of the total of 17 Demo deep borewells, only one was handed over to the Dalits, while the remaining 16 (94 percent) of wells were given to the dominant castes.

Moreover, the deep borewell given by BHC Ltd lies in Block I where most Dalit families are concentrated, while Block II Dalit families received no wells. The irony is that the one Dalit family with both a small landholding and a borewell did not receive drip irrigation piping, and hence cannot access any benefits for their land. The overall result will be only increasing disparities in cultivation practices between Dalits and non-Dalits, with Dalits being already marginal dryland cultivators with lesser annual workdays and without assured sources of irrigation.

B. 2-KR and 3-KR

Likewise, with no Dalits being granted either the 2-KR or 3-KR drip irrigation systems in the study villages, only the dominant caste cultivators have been able to reap the benefits of these two government schemes. While many have increased their lands under cultivation, more even irrigation provided by the drip systems has led to yields becoming more even and almost doubling in quantity. For example, where before farmers would realise a per acre yield of 10 bags of potato or 30 tonnes of sugarcane, this has increased to 15 bags of potato or 60 tonnes of sugarcane per acre under drip irrigation. The cultivators manage the whole irrigation system, both irrigation and fertigation done via regulated water releases through opening and closing valves, increasing both time, fertiliser and water usage efficiency in cultivation operations. However, promises of water conservation have proved false, as most cultivators have taken advantage of water conservation under drip irrigation to enlarge their cultivation areas, extracting same amounts of ground water for a larger extent of land.

In Moddalayanka, prior to the introduction of 2-KR drip irrigation, crops ranged from paddy to sugarcane, groundnut, tomato and mulberry. After 1998, drip irrigation has led to a decrease in crop varieties, farmers concentrating on mulberry and tomato cultivation.

For Jayaram, a dominant caste cultivator in Moddalayanka village, drip irrigation has increased his family's livelihood security in terms of higher profits with less labour for shorter cropping period with less irrigation water requirements. He cites as an example, "Prior to 1998 I cultivated only one acre of land with eight [Dalit] labourers. Now, I can cultivate three acres of land with the same labourers and with the same volume of irrigation water."

Some initially were introduced to gherkin cultivation by BHC Ltd officials, gherkin being a medicinal plant fetching high prices of up to Rs.100,000 per acre in the export market. However, gherkin cultivation requires high fertiliser use and employment of 10 to 15 labourers per acre, such labour requirements matched only by rice paddy and sugarcane cultivation. Moreover, the farmers' only market for the crop lay with BHC Ltd, which acted as the middle agent, purchasing gherkin crops meeting certain export quality standards and transferring the crop to the processing plants. Krishnappa and Jayaram of the village allege that the company cheated farmers in this process, rejecting more kilograms of gherkin than were of sub-standard quality in order to pay less to the farmers. This, combined with high labour costs not always meeting yield profits and stringent quality control, ensured that most farmers slowly moved back to their traditional crop of mulberry in the village.

In this line, the State Government also introduced subsidies to encourage more farmers to take up sericulture. To be noted is that with an input cost of around Rs.20,000 per acre, it is mostly forward caste and larger-scale backward caste cultivators who engage in sericulture. In the case of Moddalayanka, access to information was the key to many dominant caste cultivators moving into sericulture, they being told to meet the Mandal Parishad Development Officer to apply for sericulture loans connected with the 2-KR system. Japanese technology was introduced in the form of new buildings for silkworm cultivation, increasing profits to an extent not there prior to 2-KR irrigation. At a cost of Rs.75,000 per shed, the government pitched in a Rs.15,000 subsidy. However, with 10 silk crops a year, each per acre yield of 150 kg CSR mulberry crop or 70 kg for other mulberry varieties fetching Rs.150 per kg, the profits run to over Rs.100,000 per annum.

Thus, while dominant caste sericulture farmers in Konganapalli complain of decreasing silk prices due to the influx of cheaper and lighter Chinese silk onto Indian markets in recent years, the 2-KR and 3-KR systems, as aligned with other government subsidies for high profit cultivation such as sericulture, are out of the reach of most Dalits. Therefore, again access to promised benefits for small and marginal farmers such as Dalits, or greater livelihood security as an outfall for mostly Dalit agricultural labourers remain hollow dreams. Instead, what is being witnessed is increasing income disparities

between Dalit agricultural labourers and non-Dalit cultivators, and between Dalit and non-Dalit cultivators, thereby re-emphasising livelihood inequalities between Dalits and non-Dalits.

Livelihood Survey Results

- There has been a shift from 1990 to 2003 from cultivation to agricultural labour among Dalits, Adivasis and the one Muslim family, though for the majority of dominant castes cultivation remains their primary source of income generation. In the intervening years from 1990 to 2003, Dalit agricultural labour households have jumped from 22 (88 percent) to 24 (96 percent) households, while cultivator households have declined from 15 (60 percent) to 12 (48 percent) households. By contrast, 21 non-Dalit households (84 percent) remain cultivators, while the number of agricultural labour households has changed from one (4 percent) to five (20 percent) households.
- In terms of primary occupation, two Dalit households had moved from cultivation to agricultural labour as their main source of income, with a total of 22 (88 percent) agricultural labour households working an average of 180 annual workdays in 2003. The sole primary cultivator household (4 percent) averaged 120 annual workdays, while the other two Dalit households still remain engaged in non-agriculture occupations, namely tempo cleaning and petty trading in agricultural produce for the same annual workdays as in 1990 (*Table 5*).
- By contrast, non-Dalits remain concentrated in cultivation, with 21 households (84 percent) engaged in cultivation and seven (28 percent) in agricultural labour. However, primary occupations have undergone a little change over the past decade, with two backward caste and two Adivasi households moving from cultivation and food produce gathering respectively into agricultural labour. Therefore, currently five non-Dalit households (20 percent) state agricultural labour as their primary occupation, 19 households (76 percent) are cultivators and one Adivasi household remains as food produce gatherers.
- Supplementary income generation activities among Dalits have also increased over the past decade, particularly in the form of waged labour activities. In addition to waged agricultural labour, brick making and construction work, Dalits are now branching

Table 5 Changes to Primary Occupations from 1990 to 2003

Occupation	Waged work or Self Employed	No. of Households practising Occupation				Average Annual No. of Workdays			
		Dalit		Non-Dalit		Dalit		Non-Dalit	
		In 1990	In 2003	In 1990	In 2003	In 1990	In 2003	In 1990	In 2003
Agricultural Labourer	Waged	20	22	1	5	220	180	300+	210
Tempo Cleaner	Waged	1	1	--	--	270	270	--	--
Cultivator	Self	3	1	21	19	195	120	260	280
Petty Trader (agri. produce)	Self	1	1	--	--	210	210	--	--
Forest Produce Gatherer	Self	--	--	3	1	--	--	300+	210

Table 6 Changes to Secondary Occupations from 1990 to 2003

Occupation	Waged work or Self Employed	No. of Households practising Occupation				Average Annual No. of Workdays			
		Dalit		Non-Dalit		Dalit		Non-Dalit	
		In 1990	In 2003	In 1990	In 2003	In 1990	In 2003	In 1990	In 2003
Agricultural Labourer	Waged	2	2	1	2	165	105	150	75
Construction Worker	Waged	1	2	--	1	60	60	--	180
Earth works Worker	Waged	--	2	--	2	--	90	--	60
Brick Kiln Worker	Waged	4	2	--	--	95	90	--	--
Tailor	Waged	--	1	--	--	--	300+	--	--
Tractor Driver	Waged	--	1	1	1	--	60	300+	300+
Bus/Lorry Driver	Waged	--	--	--	1	--	--	--	300+
Cultivator	Self	13	10	--	2	80	70	--	60
Petty Trader (agri. produce)	Self	1	2	--	--	n/k	210	--	--
Food Produce Gatherer	Self	--	--	--	2	--	--	300+	75
Petty Trader (non-agri. produce - flowers)	Self	--	--	--	1	--	--	--	300+
Toddy Tapper	Self	--	--	1	1	--	--	300+	300+
Firewood Gatherer	Self	1	1	2	1	--	300+	300+	60
Milk Vendor	Self	2	2	6	12	60	180	280	260
Livestock Herder	Self	--	--	--	1	285	--	--	300+
Cattle Seller	Self	--	--	2	1	--	--	180	60
Business	Self	--	--	2	2	--	--	120	120
Moneylender	Self	--	--	1	1	--	--	300+	300+

out into earthworks, tailoring and tractor driving. Self-employing activities have little changed, though less are involved in cultivation now. Tailoring and all self-employing occupations except cultivation now bring in between 6 to 12 months work, while for other waged works and cultivation, annual workdays now average between two to three months per year (*Table 6*).

- By contrast, the increase since 1990 in secondary occupations among non-Dalits has less to do with threatened income generation security and more to do with non-Dalits increasing their capital base through various self employed income generation activities. This is borne out by their concentration in higher remunerative and more secure work activities such as business, money lending and milk vending. The only waged labour activities that form part of non-Dalit income generation activities are found in two Adivasi households and the one Muslim household.

Decreasing Workdays for Dalit Agricultural Labourers and Cultivators

Annual agricultural workdays being an indicator of income generation levels, the most noticeable change to agricultural livelihoods comes when one compares shifting patterns of workdays available. Looking at both agricultural labour and cultivator livelihood activities together, in terms of work security, the major trend to emerge is greater insecurity among Dalits. This is both in terms of lessening agricultural labour workdays as well as cultivation workdays that were already less than that of non-Dalits in 1990, and which for most have remained less or further decreased. For non-Dalits, cultivation benefits reaped through the Demo project, 2-KR and 3-KR schemes have only supplemented their already full-time work in their fields, while for around one-quarter of non-Dalit cultivators, these systems have enhanced their annual workdays to bring in more income for their families.

- Average annual workdays across the 22 Dalit agricultural labour households have dropped from the 1990 level of 220 days to an average of 180 days by 2003. With Dalits being mainly concentrated in agricultural labour as compared to non-Dalits,

the loss was clearly visible, with 50 percent experiencing decreases in annual workdays of one month to four months. Only for 36 percent, mostly Cheldiganipalli households, workdays averaging around six months per year have as yet not decreased or increased. And only three households stated an increase in agricultural workdays (*Table 7*).

- With only two non-Dalit households engaged in agricultural labour both in 1990 and in 2003, comparisons cannot be made. One household had experienced a decrease of three months in annual workdays, while another had seen an increase of five months work (*Table 8*).

Table-7 Dalit Agricultural Labourers - Annual Workdays

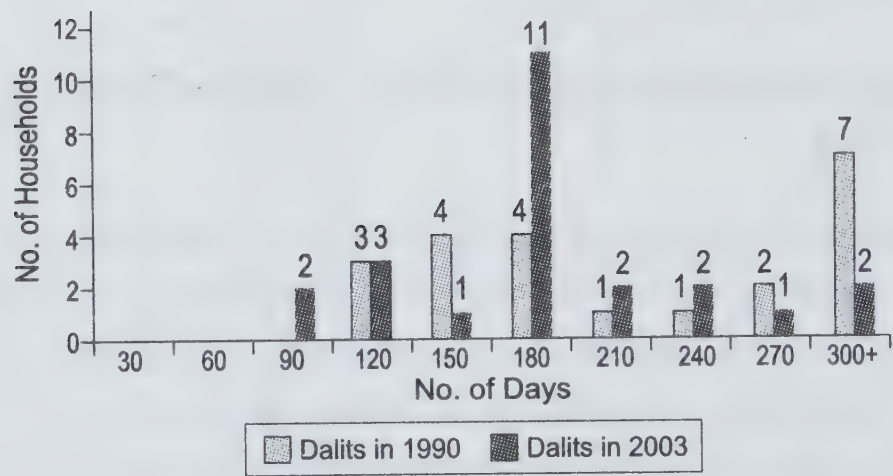
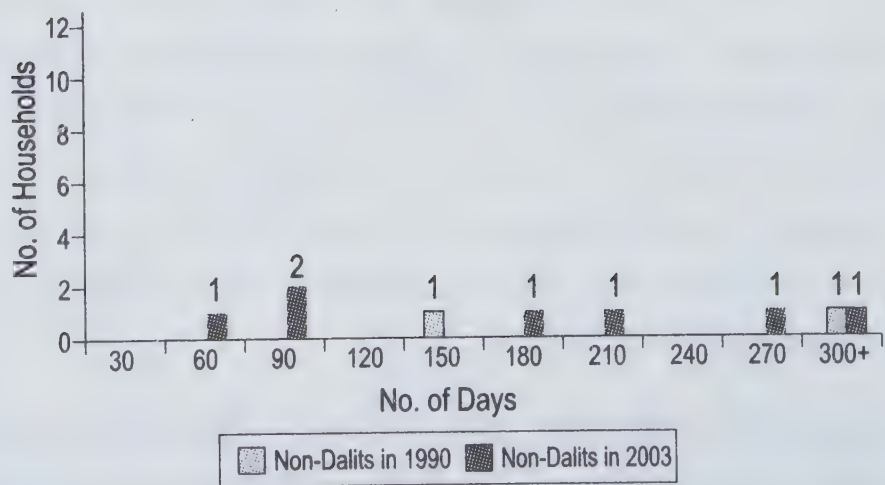


Table-8 Non-Dalit Agricultural Labourers - Annual Workdays



- The difference between Dalits and non-Dalits becomes glaring when comparing the changing annual number of workdays for cultivators. In 1990 Dalit cultivators averaged 195 workdays as compared to 260 workdays for non-Dalit cultivators. By 2003 while Dalit cultivators averaged lesser annual workdays of 120 days, non-Dalits had increased their average annual workdays by 20 days to 280 workdays.
- Lessening or stagnant annual workday levels (60 percent) for Dalit cultivators was due to both lesser numbers engaged in cultivation as well as decreases for three cultivators (27 percent) of between one to three months. Only for seven households (64 percent) have their annual workdays remained the same and for one there has been a slight increase (*Table 9*).

Table-9 Dalit Cultivators - Annual Workdays

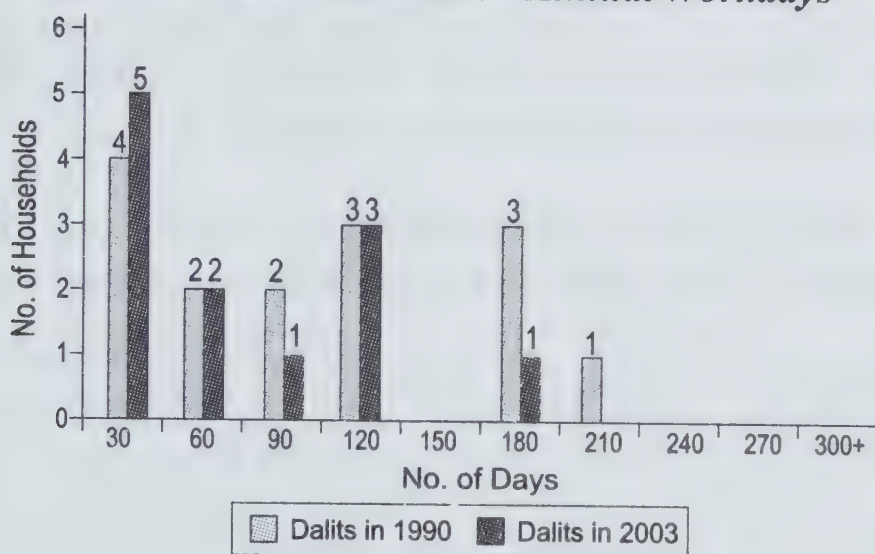
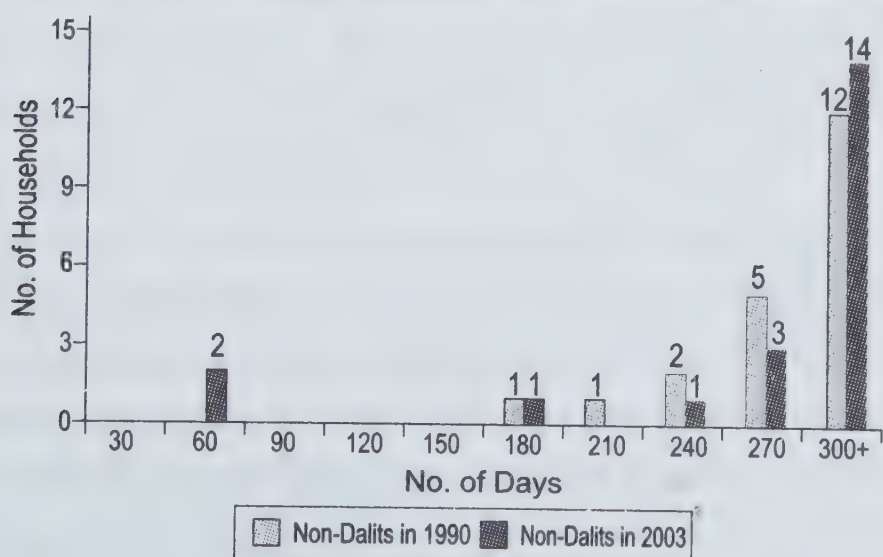


Table-10 Non-Dalit Cultivators - Annual Workdays



- By comparison, of the 19 non-Dalit households engaged in cultivation in both 1990 and 2003, the majority of households (12 households or 63 percent) with annual workdays of nine months or more had retained their almost full-time work status. Five non-Dalit cultivators (26 percent) had witnessed increases of one month to four months in their annual cultivation workdays, while only two had witnessed decreased annual cultivation workdays (*Table 10*).

Migration Patterns

The result of the afore-mentioned changes to agricultural operations is that migration is on the increase, with more Dalits migrating to Bangalore city for greater periods of time to take up waged labour works such as brick making, construction work or cable laying. While only a few Cheldiganipalli Dalits have started migrating to Bangalore on the completion of the Demo, caste tensions between the dominant caste landowners and Dalit agricultural labourers may lead to many Dalits being denied work in the dominant castes' fields on the commencement of the next agricultural season.

Prior to the introduction of drip irrigation mostly men from around 10 Gandhinagar Dalit families regularly migrated to Bangalore city to work in the brick kilns for approximately ten days per year. This has now increased to 30 to 60 days per year for both the Dalit men and women of around 50 households due to the introduction of drip irrigation. While migration wages have increased from Rs.30 to Rs.50 in 1990 to Rs.70 to Rs.100 in 2003, rising costs of living in Bangalore city preclude many from saving substantial amounts to upkeep their households. Moreover, Dalit migration is mostly to physically demanding works such as brick making, signalling increasing labour extraction required for Dalits to meet the livelihood needs of their families.

Thus, income generation from migration work has changed from a supplementary form of income to an important survival strategy for around one-third of Gandhinagar Dalits. The remaining households are left in a precarious position, with drip irrigation spreading in the area occasioning lessening workdays in agricultural labour. Moreover, prevailing drought conditions are slowly wiping away cultivation as an income generation activity. While in Konganapalli village the lesser number of farmers with drip irrigation has lessened negative impacts

for agricultural labourers, assured agricultural labour work if greater numbers of non-Dalit landowners access drip irrigation is doubtful. And when options to branch out into more sustaining livelihood activities are limited, increasing migration into waged labour jobs becomes a key outcome of this process of inequitable minor irrigation distribution.

Overall, it is clear from both the small household sample and interviews that migration trends will in all likelihood increase among particularly Dalit agricultural labour households in Demo, 2-KR and 3-KR villages as this new technology spreads into the hands of non-Dalit farmers. This will only serve to emphasise the livelihood differentials between the two communities. Without adequate protection and occupational alternatives provided by the State, the result will also be to exacerbate economic dependency leading to economic exploitation of Dalits by non-Dalits.

- Two Dalit men from Cheldiganipalli have given up migration to the brick kilns over the past decade due to adequacy of work in the Demo project, while only one Muslim male has started migrating for a month post-Demo to do earthwork in the lull period prior to the commencement of the next agricultural season.
- In Gandhinagar, one Dalit male who in 1990 engaged in brick making and cable laying continues to do the same for two months per year. The other Dalit male who migrated in 1990 to construction sites has since ceased to do so due to sufficiency of labouring hands in his extended family. However, for two of the four Gandhinagar Dalit households surveyed, reduction of workdays by three to four months per year had resulted in their commencing migration to Bangalore city to engage in construction and earthworks for three months per year.
- The only other community migrating in 2003 as opposed to 1990 are two Adivasi men from P.V. Puram village for 90 and 180 annual workdays to engage in cable laying and construction works respectively.

II. Changes to Natural Capital

Land Ownership Patterns

A key factor in a rural set-up in terms of livelihood security is land ownership. On the Kuppam side of Chittoor district, traditional large

inequalities in land ownership along caste lines is further exacerbated by erratic rainfall patterns. The dominant castes own the majority of the small percentage of wetland (tank beds), while the larger percentage of land is dryland that is either rainfall irrigated or well irrigated. However, financial capital requirements for borewells and motors to pump up groundwater for irrigation again work to preclude many poorer Dalits from access to irrigation security.⁷

The majority of Dalits in Cheldiganipalli village operate dry landholdings of between 0.17 to 0.4 acres, the government having allotted many of them 0.17 to 0.18 acres of government revenue wasteland during the 1990s. Only a few families have landholdings of between 1.5 to 3 acres. By contrast, non-Dalit landholdings range from 3 acres to 165 acres, with an average of 6 acres of land. Landlessness is concentrated in Dalit households, 20 percent of whom are landless as compared to around 7 percent of backward castes and Muslims.

A similar pattern is repeated in Gandhinagar, with around 20 percent landlessness among Dalits as compared to nil landlessness among non-Dalits in Moddalayanka. Landholdings in Moddalayanka vary between 3 to 5 acres for backward castes, and 8 to 10 acres for forward castes. By contrast, while 60 Gandhinagar Dalit households own around 300 acres of land, or an average of 3 to 5 acres per family, in effect 120 families own this land as all are joint families living separately but sharing incomes.

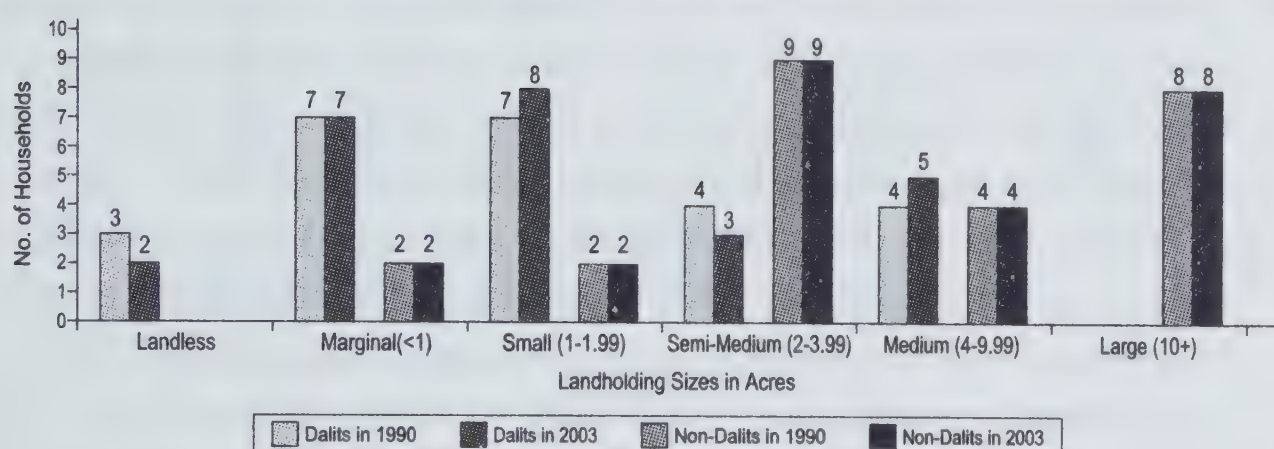
In Konganapalli, landholdings among Dalits vary from marginal holdings of 0.5 acres to semi-medium holdings of around 4 acres, with an average of less than 2 acres of land. By contrast, medium to large landholdings are possessed by many non-Dalits in the village ranging from 7 to 50 acres, with an average of 10 acres of land per household. Otherwise, in P.V. Puram, most Adivasis operate landholdings of between 0.75 to 4 acres, with an average of 2 to 2.5 acres per household.

- Overall, landholdings have remained relatively stable over the past decade, with only a few of the Cheldiganipalli Dalits selling off their 0.17 to 0.18 acres of land to keep their households going or to pay for marriages. Of the 50 households surveyed across the villages, while in 1990 Dalit households possessed a

total of 54.5 acres, by 2003 this has decreased to 48.6 acres. By contrast, for non-Dalits, their 1990 total landholdings of 415.2 acres has since increased to 427.0 acres.

- Landlessness among solely Dalit households has reduced from three to two households between 1990 and 2003 due to government allocation of 0.18 acres of revenue wasteland to one household. Otherwise, 56 to 60 percent of Dalits were and still are concentrated in marginal and small landholdings of less than 2 acres. Of the remaining Dalit households, joint family landholdings are responsible for the 16 to 20 percent of Dalit households with medium landholdings, which on family division will once more reduce landholdings to small or marginal holdings. By contrast, 48 percent of non-Dalit households remain concentrated in medium to large landholdings, with a further 36 percent owning semi-medium landholdings (*Table 11*).

Table-11 Landholdings



Landholding sizes apart, in Chittoor district differentiation between dryland and wetland indicates land quality ownership and assured irrigation water access. In keeping with the pattern of caste differentiation in terms of landholding sizes, land quality ownership is also sharply divided along caste lines.

- Only 4 percent of Dalit households as compared to 24 percent of non-Dalit households surveyed own wetland, and that too for the sole Dalit household being a small landholding situated by the village pond. The one Dalit household with wetland

owns no dryland and most other Dalit households are concentrated in marginal to small dryland holdings. By contrast, non-Dalits own larger extents of tank/ riverbed wetland, along with dryland (*Table 12*).

Table 12 Ownership of Wetland vs. Dryland

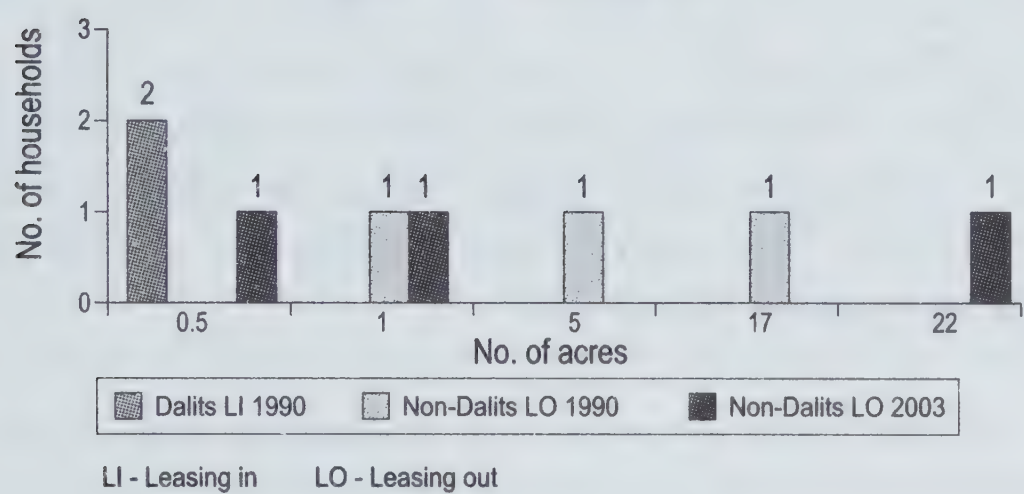
Landholding size	Wet land				Dry land			
	Dalit		Non-Dalit		Dalit		Non-Dalit	
	1990	2003	1990	2003	1990	2003	1990	2003
Marginal	--	--	1	1	7	7	3	2
Small	1	1	1	1	6	7	2	3
Semi-Medium	--	--	1	1	4	3	8	8
Medium	--	--	1	1	4	5	5	5
Large	--	--	2	2	--	--	7	7
Total	1	1	6	6	21	22	25	25

Land Markets

- In terms of changes to landholding patterns over the past decade, only four Dalit families have improved their landholdings, one due to 0.18 acres of dryland given by the government as stated above, and the others by acquiring between 0.5 to 2 acres of dryland during the past decade. Non-Dalit households, by contrast, are active in both wetland and dryland purchasing markets. Two households have purchased 2 acres and 10 acres of wetland respectively and four having purchased dryland ranging from 1 acre to 20 acres over the past decade from non-Dalit landowners.
- In terms of land sales, only three non-Dalit households, all backward castes, had sold parts of their land ranging from 0.5 to 1.2 acres over the period 1990 to 2003. For one household it was to generate capital to repay a loan, for another household for house construction/renovation, and for the other household for both house construction/renovation and a marriage.
- As per the survey, land lease markets were active only in Cheldiganipalli village, controlled by the non-Dalits of the village. Currently only one Dalit household and six dominant caste households are leasing in land from dominant caste landowners.

- Two Dalit households surveyed had leased in 0.5 acres of wetland in 1990, but due to one incurring a loss and the landowner recovering the land from the other, neither were leasing in land today. Meanwhile, three dominant caste households had leased out land to two Dalits and two non-Dalits in 1990, while in 2003 land was leased out to one Dalit and three non-Dalits. For all but one dominant caste household, the leasing contract is on a sharecropping basis, while one dominant caste paid an annual sum of Rs.10,000 in 1990 for 15 acres of wetland, which increased to Rs.12,000 by 2003 for 20 acres of wetland. Otherwise, only one dominant caste leased in one acre of dryland both in 1990 and 2003, while all other lessees leased in wetland (*Table 13*).

Table-13 Lease Market



Irrigation Sources

With most households owning dryland, irrigation sources play a vital role in determining a household’s ability to cultivate land with sufficient, assured water sources to sustain a season of crops. Here again, both lack of ownership of wetland and lack of financial capital to invest in wells and motor pumps to extract groundwater place Dalits at a disadvantage vis-à-vis non-Dalits.

- Across the 25 Dalit households surveyed, 72 percent were rainfall dependent in 1990, with only 16 percent possessing borewells or open wells⁸ and one household with land in the tank bed.

By comparison, non-Dalit households in general had assured irrigation sources, 24 percent with wetland in the village tank bed, 56 percent with borewells or open wells and one household with land in the riverbed. As a result, only 36 percent in 1990 relied on rainfall to irrigate part or all of their lands.

- By 2003, this pattern has changed, three Dalit families having acquired borewells. However, for two households the drought situation prevailing across the district has dried up their borewells, and with no ability to invest to deepen their wells these households now rely upon rainfall for irrigation. By comparison, reliance on rainfall for irrigation purposes has reduced among six non-Dalit households, with four acquiring borewells, one drip irrigation and one no longer cultivating rain-fed land and instead relying on borewell irrigation to cultivate a lesser extent of land.
- Only five Dalit households have received drip irrigation systems as a result of the Demo project, as compared to 15 non-Dalit households. Moreover, of those with drip irrigation, 12 non-Dalit households have also borewells or open wells in their fields, while none of the Dalit households can claim the same. This makes them either reliant on others for borewell connections or renders them unable to utilise the drip irrigation systems (*Table 14*).

Table-14 Irrigation Sources

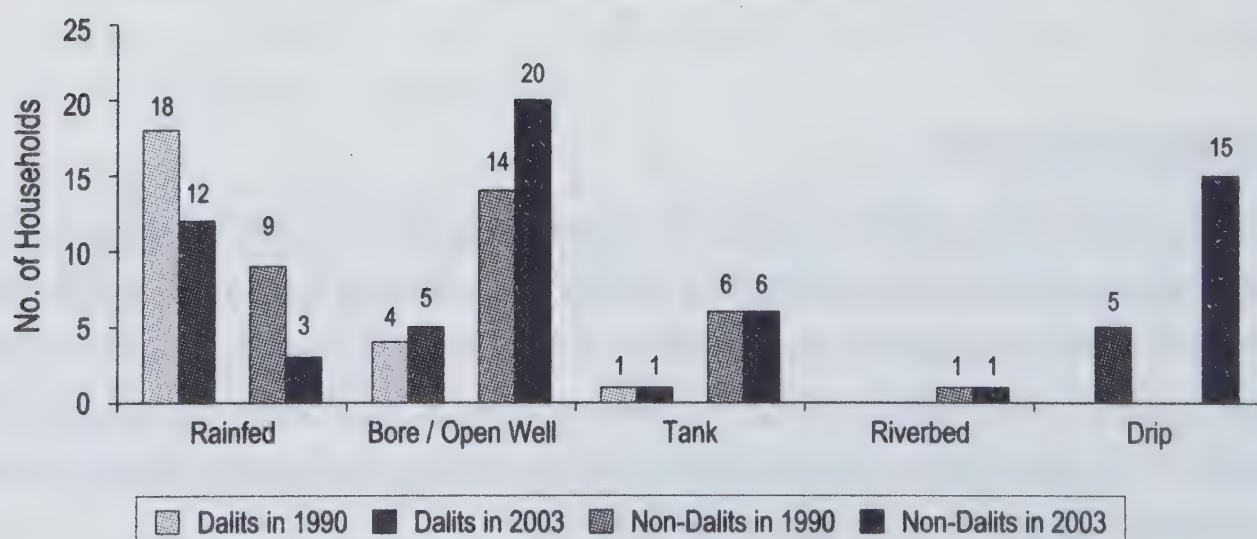


Table 15 Land Coverage under Irrigation Sources

Acres	Dalits in 1990	Dalits in 2003	Non-Dalits in 1990	Non-Dalits in 2003
Acreage under assured irrigation (wells, tanks, riverbed, drip)	8.1	12.2	203.0	302.0
% Assured irrigated land to total irrigated land	20.5%	31.6%	92.8%	98.6%
Acreage under rainfall irrigation	31.4	26.5	15.8	4.3
% Rainfall irrigated land to total irrigated land	79.5%	68.7%	7.2%	1.4%
Total land under irrigation	39.5	38.6	218.8	306.3

- Taking land coverage under irrigation sources as a whole, dependency on rainfall for irrigation has decreased by 10.8 percent land coverage for Dalits from 1990 to 2003, and by 7.1 percent land coverage for non-Dalits in the same time period. But overall, 68.7 percent of Dalits' irrigated land remains dependent on rainfall for irrigation, while only 4.3 percent of non-Dalits' irrigated lands are rainfall dependent (*Table 15*).

Thus, while drip irrigation is touted by the Andhra Pradesh Government as a solution to improving cultivation income and livelihood security for poor and marginal cultivators, a clear distinction between those with irrigation assets and those without is being reinforced through both non-Dalit cultivators' financial abilities to invest in borewell or open well irrigation as well as through the introduction of drip irrigation. By contrast, the inability to access schemes to purchase borewells leaves most Dalits still dependent on rainfall today, a situation only exacerbated by their inability to access drip irrigation schemes.

Common Property Resources

Other natural resources available to supplement land ownership in the study villages are common property resources, which in all villages consist of a village pond, while P.V. Puram and Gandhinagar are

situated in close proximity to forests and P.V. Puram and Cheldiganipalli both possess some extent of revenue wastelands. Cheldiganipalli Dalits also access the tamarind trees planted by the roadside near the village as an additional source of income.

Caste discrimination in access to common property resources, a form of discrimination common in other parts of the state, does not appear to be a factor in the study villages. Rather, it is the shrinking pond water resources due to drought and declining forest cover that are of concern to Dalits. As forests are both a source of minor forest produce (for Adivasis) and firewood for many Dalit, Adivasi and backward caste households, declining forest cover particularly affects women of these communities who gather firewood and forest produce. In addition, the shrinking reserve wastelands in Cheldiganipalli due to the Demo project subsuming these lands into it, negatively affect fodder levels for cattle in the village.

III. Physical Capital

Physical capital in the form of assets such as livestock, agricultural equipment, private modes of transport, televisions, radios and other common household appliances enable a household to weather to some extent situations of underemployment, financial crisis, drought or other changes brought about projects such as the Demo farm or 2-KR and 3-KR schemes. As with land ownership patterns, across the assets surveyed non-Dalits had both a greater asset base in 1990 as compared to Dalits, and have by and large maintained or increased their asset base by 2003.

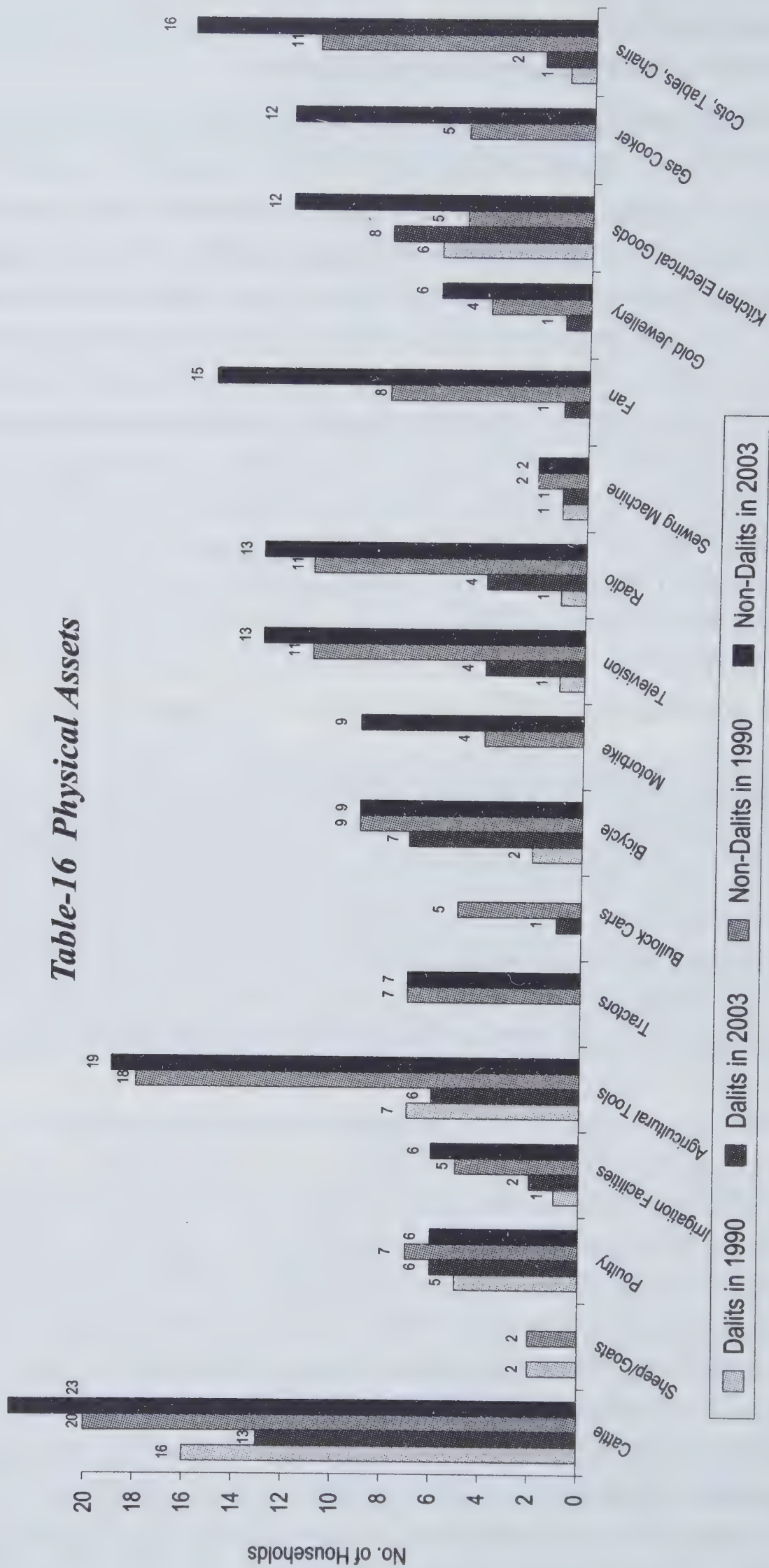
Dalit households show a trend of declining ownership of agricultural tools and livestock, and only minor increases in the number of households possessing most other physical assets. Most Dalits today, as before, have high consumption-based expenditure drawing upon income from waged labour works, which leaves them little financial capital to invest in more durable goods. Moreover, for these study villages, agricultural labour decline and occupational uncertainties caused by the advent of the Demo project, 2-KR and 3-KR schemes have resulted in no visible signs of livelihood improvement in Dalit localities. Meanwhile, non-Dalit localities as a whole are prospering, particularly where drip irrigation has almost doubled incomes.

- Of those households surveyed, four Dalit households own none of the physical assets mentioned below, indicating their particularly vulnerable poverty situation.
- Livestock ownership among Dalit households has declined from 1990 levels, when 16 households (68 percent) owned some livestock assets – cattle, sheep, goats or poultry – as compared to 21 non-Dalit households (84 percent). By 2003, the gap in livestock ownership between Dalits and non-Dalits has increased, with 13 Dalit households (52 percent) as compared to 24 non-Dalit households (96 percent) now possessing some livestock. In particular, cattle ownership among Dalit households has not only declined from 1990 to 2003, but cattle numbers have also declined. By comparison, 20 non-Dalit households (80 percent) owned cattle in 1990, which by 2003 increased to 22 households (88 percent), though cattle numbers had declined. The main reason for decreased cattle holdings for all communities was the decrease in grazing lands for fodder due to both the Demo project taking over grazing lands and drought in the district (*Table 16*).

What was also noticeable during the Demo project was that six cows died due to high fertiliser and pesticide residues in the grass and water sources around the Demo fields. Moreover, with machines used in the Demo, many had sold off their bullocks that were left idle during the Demo period. Cheldiganipalli Dalits currently possess only three bullock pairs, which now presents them with problems of ploughing their fields. Their only solution is to apply for loans to either formal credit institutions or to the SC Finance Corporation once more.

- Dalits again possess less irrigation facilities and agricultural tools than non-Dalits, though both communities have witnessed slight increases over the past decade. The clearest distinction in terms of possession of financial capital is seen in ownership of tractors, seven non-Dalit households (28 percent) owning a total of eight tractors in 1990, which by 2003 had increased to 19 tractors. This has been accompanied by a consequent sale of bullock carts by four non-Dalit households, while one household has sold their bullocks due to the lack of grazing land resulting from the Demo project. By comparison, no Dalit household owned tractors, with only one household purchasing a bullock cart by 2003.

Table-16 Physical Assets



- The strict timings maintained during the Demo project resulted in an increase in bicycle ownership among Dalit agricultural labourers, with seven households (28 percent) now owning bicycles as compared to two households (8 percent) in 1990. However, again possession of this asset is more in the case of non-Dalit households, with nine households owning bicycles in 1990, two of whom had consequently sold their bicycles by 2003 to purchase motorbikes, while two other households had since purchased bicycles. As with tractors, motorbike possession was seen solely with non-Dalit households and had increased over the past decade from four (16 percent) to nine households (36 percent).
- Finally, the disparity in ownership of household goods between Dalits and non-Dalits is maintained for all items, particularly in terms of access to televisions and radios, fans, gas cookers and cots, tables and chairs. No Dalit household owns a gas cooker, while one Dalit household as compared to six non-Dalit households now owns gold jewellery. Only as regards kitchen electrical goods did more Dalit households (six households or 24 percent) own such goods in 1990 than non-Dalit households (five households or 20 percent). But by 2003 non-Dalit households with such goods have more than doubled to 12 households (48 percent) as compared to eight Dalit households (32 percent).

IV. Economic Capital: Savings and Loans

Economic capital is the key third capital which, along with possession of natural and physical assets, can determine which community has working capital to maintain their households during times of labour crises. It also serves to indicate which community received the benefits of the contract farming and drip irrigation schemes. Possession of financial capital in the form of savings has in general always been much less for Dalits as compared to non-Dalits. Most Dalits have higher consumption based expenditure patterns with little left to plough into savings due to their concentration in lower waged labour works.

While in 1990 no household was part of savings and credit groups, the proliferation of micro-finance institutions and groups during the past few years is visible in all the villages.

- Currently 19 Dalits and 17 non-Dalits in the 50 households surveyed, almost all women, are members of savings groups with monthly savings levels averaging between Rs.30 to Rs.50. However, these savings are primarily being ploughed back into meeting consumption needs, cultivation and health expenditure for Dalits, and family expenditure, cultivation and marriages for non-Dalits. Only one non-Dalit mentioned saving money for the future, while for many non-Dalit households bank savings continue to grow due to continuing cultivation along with the Demo lease money, but more particularly for those who have accessed drip irrigation and sericulture schemes.

A. Demo Project

Under the Demo project, higher agricultural labour wages did result in a certain degree of affluence creeping into Dalit households. However, without the project being linked with savings and credit schemes to enable Dalits to shift from a consumption-based culture into a savings culture, most money continued to be utilised for immediate consumption needs. The land lease amounts were paid once every three months directly into their bank accounts by BHC Ltd, but became increasingly irregular towards the end of the project. The payments stopped at the end of the project while it took another six months before all got back their lands. Moreover, many Dalits did not see the full value of such amounts, with bank officers seizing the opportunity to make repayments on bank loans taken by the Dalits.

Hence, Dalits enjoyed more regular meals and better quality food for the five years of the project, but on its completion they are left where they were to begin with. But now, with labour days decreasing across agricultural lands and their meagre landholdings rendered uncultivable by the Demo project, financial capital is slowly drifting into greater deficits. The result is an increase in household expenditure-based loans.

In addition, with many Dalits selling off their bullocks during the Demo project due to the lack of grazing land for fodder, most now require loans to re-purchase bullocks to commence ploughing in preparation for the next agricultural season. However, as new crops of beans and tomatoes are more suited to soil heavily laden with

pesticides and fertilisers rather than the traditional crops of *ragi* and horsegram grown before, Dalit marginal cultivators are faced with the prospect of increased loans to shift into cultivation of new crops. Non-Dalit cultivators, by comparison, have in general a greater financial base and will be more successful in moving into the new crops and reaping the benefits of drip irrigation left on their lands.

B. 2-KR and 3-KR Systems

Likewise, the 2-KR and 3-KR drip irrigation schemes have heralded between one-third to double previous crop yields for the dominant castes granted such schemes, which, when combined with shifts to high yield crops and sericulture in Moddalayanka and Konganapalli, is augmenting the non-Dalit cultivators' financial base. At whose cost? : that of agricultural labourers who are left without adequate workdays, who already had a vulnerable financial capital base which is being exacerbated by unequal access to minor irrigation schemes.

One Dalit farmer from Gandhinagar has lands next to a backward caste farmer from Moddalayanka, who owns a borewell. When the 2-KR scheme was announced and applications invited, the backward caste farmer stated that the Dalit farmer could participate in the scheme by paying some money to him as a form of rent for sharing the backward caste's borewell. Possessing no financial capital to invest in such a venture, the Dalit household was unable to access benefits of drip irrigation for their lands.

- In all villages where contract farming, 2-KR or 3-KR schemes have been implemented most Dalits have consequently seen a sharp rise in their loan levels. While 18 Dalit households surveyed could not estimate their average loan sizes in 1990, of those who could, loans were either less than Rs.1,000 or between Rs.1,000 to Rs.5,000. However, by 2003 besides the 12 Dalit households which had either no loans or were unable to state their loan amounts, loans averaged between Rs.5,000 to Rs.10,000, with one household having taken a loan of Rs.45,000 for cultivation purposes.

Credit Market

As with land and labour markets, the dominant castes control the informal credit market from which the majority of Dalits draw loans, particularly the dominant caste landowners who thus can exert control

over Dalits by catering to both the credit and labour needs of Dalits. While in Cheldiganipalli Dalits have not as yet felt the full impact post-Demo in terms of changed labour patterns, many are still turning back to loans to meet basic household needs. For Dalit habitations affected by 2-KR and 3-KR systems, loans have sharply increased to cope with decreasing labour days available in the dominant castes' fields.

Table 17 Informal Sources of Household Credit in 2003

Amount in Rupees	Moneylender		Dominant Caste Landowner		Relatives		Non-Dalit Shop Owner	NGO
	Dalit	Non-Dalit	Dalit	Non-Dalit	Dalit	Non-Dalit	Dalit	Non-Dalit
1,000-5,000	2	--	3	3	1	--	1	--
5,001-10,000	1	1	4	2	--	2	--	--
10,001-15,000	1	1	--	--	1	--	--	1
15,001-20,000	--	1	2	--	--	1	--	--
20,001-30,000	--	1	1	--	--	--	--	--
30,001-50,000	--	5	2	--	--	--	--	--
Total	4	9	12	5	2	3	1	1

Table 18 Formal Sources of Household Credit in 2003

Amount in Rupees	Commercial Bank		Cooperative Society
	Dalit	Non-Dalit	Dalit
1,000-5,000	2	--	3
5,001-10,000	1	1	4
10,001-15,000	1	1	--
15,001-20,000	--	1	2
20,001-30,000	--	1	1
30,001-50,000	--	5	2
Total	4	9	12

- The two main sources of credit for Dalits are dominant caste landowners (12 households or 48 percent) and dominant caste moneylenders (four households or 16 percent), both sources being cited for cheating Dalit cultivators by seizing a greater amount of their crops in repayment of loans. Otherwise, two Dalit households had borrowed from relatives and one from a dominant caste shop owner.
- For non-Dalits, dominant caste moneylenders are the main source of informal credit (nine households or 36 percent) followed by dominant caste landowners (five households or 20 percent), while three had borrowed money from their relatives and one from a local NGO (*Table 17*).
- Usurious compounded interest rates ranging from 24 percent to 36 percent per annum accompanied loans from moneylenders and landowners, while for two Adivasi households, Gaddur dominant caste landowners charged as high as 60 percent compounded interest per annum.
- Higher ranging loans of between Rs.10,000 to Rs.70,000, with an average 18 percent annual interest, were mainly taken with commercial banks and cooperative societies by six Dalit households (24 percent), with two taking loans of less than Rs.5,000 from banks. Meanwhile, for five non-Dalit households (20 percent) the loan sizes ranged from Rs.10,000 to Rs.100,000 (*Table 18*).

Hence, the pattern emerging in access to credit markets is greater reliance by Dalits as compared to non-Dalits on informal sources of credit, while higher value loans are taken from formal sources such as banks and cooperative societies. Loans for Dalits served mainly for cultivation, but also for basic household expenses, marriages and health, while for non-Dalits most loans were for cultivation and marriages. The ability to repay loans is a significant point of difference. Most non-Dalits rely on their income from crops while most Dalits rely upon their daily wages to repay loans plus interest, leading many to no longer know the amounts outstanding due to inability to make repayments (*Table 19*). Hence, the dominant castes are able to interlink their control over land, labour and credit markets to ensure that financial independence for Dalits is prevented in order to maintain Dalits' dependence on them for their livelihood.

Table 19 Loan Purpose and Repayment Method

Loan Purpose:	Dalits	Non-Dalits
Income generation (cultivation)	8	12
Household Expenses	5	2
Health	5	1
Marriage	6	4
Land Purchase	1	2
House construction/renovation	2	2
Repayment Method:	Dalits	Non-Dalits
Income from Crops	8	20
Daily wages	19	3
Total no. of Loans	27	23

V. Human Capital

Health

Poverty levels, lower living standards with lesser access to basic amenities and lesser food security generally set apart health standards in Dalit households from most non-Dalit households. What the Demo project brought with it was both greater food security due to an increase in wages per Dalit household, as well as greater health problems due to harder labour requirements and high levels of pesticide and fertiliser application in the fields. While most Dalits were not able to save money during the Demo project, all enjoyed the security of three meals a day and luxuries such as better quality rice and mutton. For a community that in general never has excess wages to spend on such items, this was the first chance for many to experience what many non-Dalits in the village took for granted.

However, the Demo project also brought with it a 30 percent increase in health problems and health expenditure for the mainly Dalit agricultural labourers exposed on an almost daily basis to high concentrations of pesticides and fertilisers. Skin diseases, headaches, fevers and nausea became a common feature during the Demo project, a factor never made public by BHC Ltd or the government in its profit-driven evaluation report. Particularly gherkin cultivation, the main crop during the Demo that requires high pesticide use, resulted in an outbreak of skin diseases for many agricultural labourers. Therefore, linking decreasing health conditions with harder

labour and lesser education and skills among Dalits, what is being perpetuated is only a circle of conditions that hinder most Dalits from having the ability to improve their livelihoods.

- In 1990 both Dalits and non-Dalits who could recall their annual sick days averaged one month's loss of days due to sickness. However, by 2003, out of the 18 Dalit and 18 non-Dalit households able to state their annual sick days, 50 percent of Dalit households as compared to 39 percent of non-Dalit households cited an increase in annual sick days. For most Dalits, sick days had increased by 30 days, while for non-Dalits it was by around 10 to 20 days. Moreover, while 33 percent of Dalits now lose between one to two months due to illness per year, only 16 percent of non-Dalits lose one month (*Table 20*).

Table-20 Annual Days lost due to Ill-Health

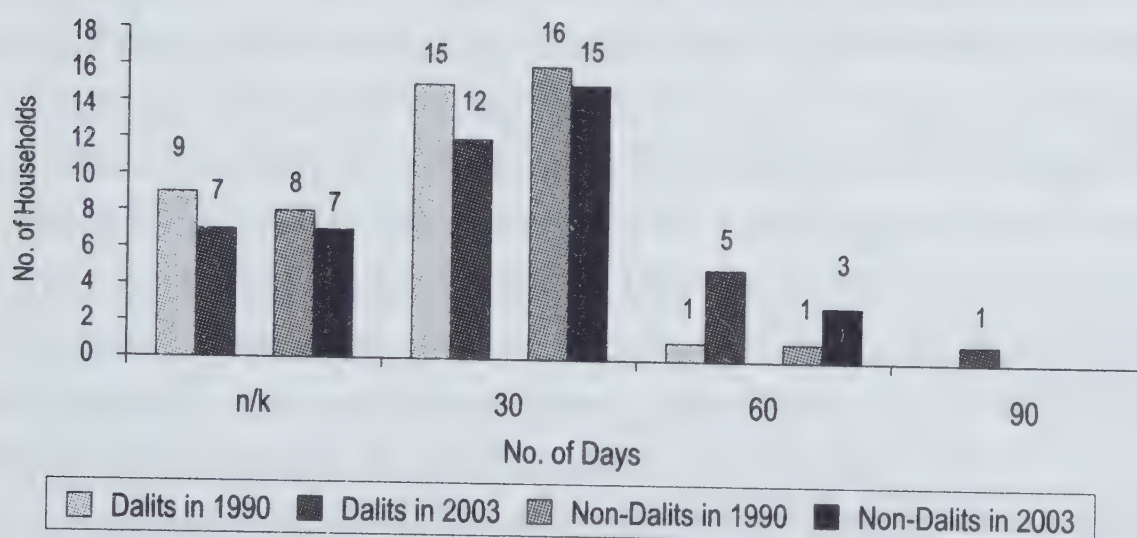
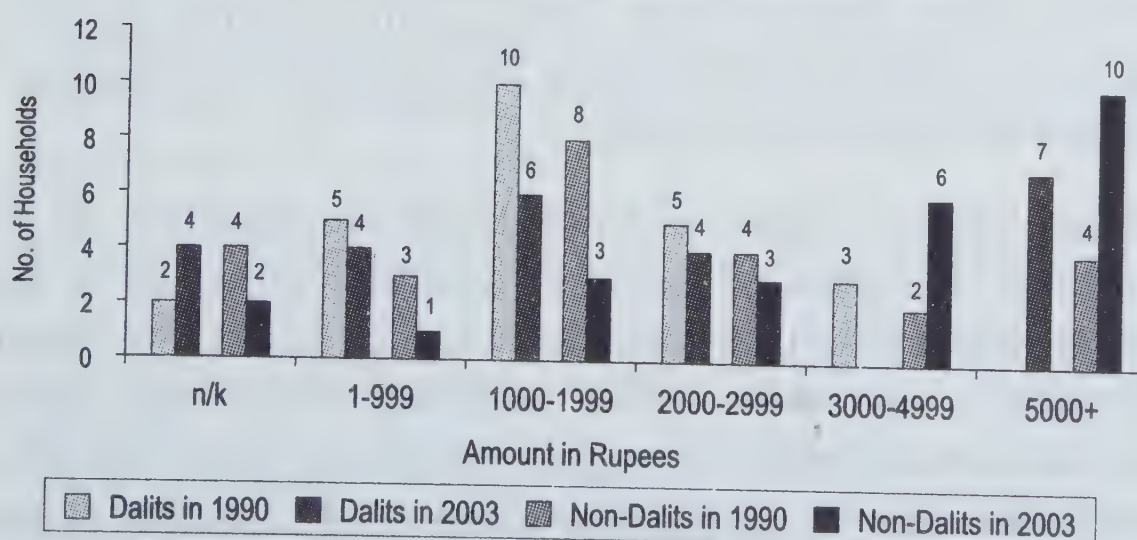


Table-21 Annual Expenditure on Healthcare



- When analysed with increases in expenditure, income and loans, Dalits are now spending almost double their 1990 levels on healthcare, with seven households (28 percent) now incurring healthcare expenditure of over Rs. 5,000 per year. This is due to many shifting from government-funded sources of healthcare to private clinics in response to poor quality medical care offered by government health institutions. Taken with their lack of financial capital, low waged income levels and falling workdays, interviews bore out the increase in Dalit households taking out health-related loans. By comparison, while non-Dalits had also doubled their annual healthcare expenditure levels over the past decade, this must be seen in the light of better health conditions and overall lesser sick days than Dalits and greater financial capital to spend on healthcare (*Table 21*).

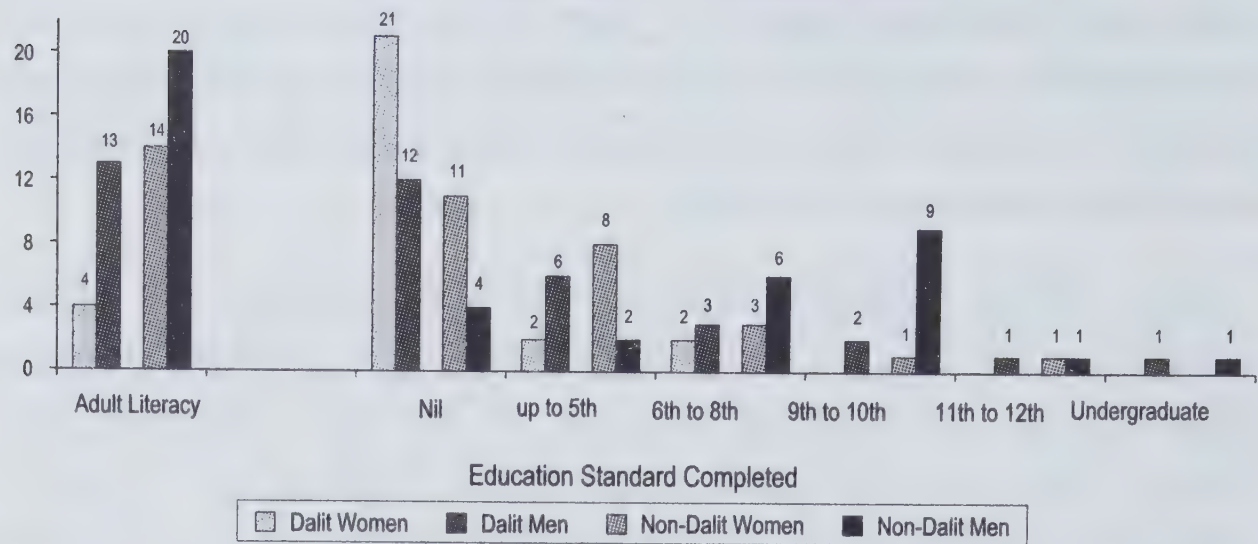
Education

The concentration of Dalits in low-waged labour occupations with marginal landholdings that do not generate sufficient income to sustain the family, coupled with a lack of financial assets in terms of savings as well as physical assets, can be linked to low human capital that distinguishes this community from non-Dalits. Two key aspects of human capital, namely education and skills that have potential to transform this situation, are much lower in Dalit communities than in dominant caste communities. The lack of skills is due to Dalits' historical concentration in traditionally unskilled occupations. The lack of education is due to discrimination in access to education as well as lack of concerted efforts to equip this community with skills through education and training. This still prevents many Dalits from being able to branch out into skilled employment and compete on a more level footing with non-Dalits in the labour market.

Disparities between Dalits and non-Dalits in education lie in two main arenas, in terms of literacy rates and dropouts in formal education. Most Dalit children still lag behind their non-Dalit counterparts in education levels, studying on average up to 7th standard before dropping out to join the labour force. By contrast, most non-Dalit families retain their children in education at least up till 10th to 12th standard, while a few forward caste children in particular are undertaking university degrees these days.

- Adult literacy rates for the main earning male and female in the 50 households surveyed revealed 52 percent literacy among Dalit men as compared to a low 16 percent literacy among Dalit women. Gender disparity was also found in non-Dalit households, though with significantly increased literacy rates of 80 percent for non-Dalit men and 56 percent for non-Dalit women (*Table 22*).
- These varying literacy rates across communities are further emphasised by education standards, being an important difference among men rather than women of the two communities. Most Dalit men had studied anywhere from up to 3rd to 7th standard, while two had completed 10th standard, only one having gone on to 12th standard and one up to the university undergraduate level. By comparison, Dalit women had studied up to between 5th to 7th standard. In the case of non-Dalit men, most had studied up to between 7th to 10th standard, while one had gone on to complete 12th standard and one to the university undergraduate level. Again, education levels were less among non-Dalit women, most having studied up to between 5th to 7th standard.
- Currently, of those families with children of school age, eight Dalit families send their children to government schools and three families to Scheduled Caste residential schools. Only five non-Dalit families are able to afford the education fees to send their children to private schools and private residential schools, while the remaining eight families send their children to government schools. Dalit children in most villages are increasingly attending schools, helped by schemes such as the midday meal scheme in the case of Cheldiganipalli and the education guarantee scheme in the case of Gandhinagar.
- A total of eight Dalit children, five girls and three boys aged 14 years and below, have dropped out from education due to poverty to primarily work as agricultural labourers (six children), though two boy children stay at home. The only other family with child dropouts is the one Muslim family. There, the boy child stays at home while the girl child looks after the house and younger children, due to both failing their exams.

Table-22 Adult Literacy & Education Levels



Government Skills Trainings

While educational levels for Dalit children still remain lower than that of non-Dalit children, for young adults of working age, little government efforts have penetrated these villages to offer alternative income generation activities to Dalits.

- Two Dalit women surveyed are part of DWCRA savings groups while one Dalit male has undergone IRDP training in small business. By comparison, 10 non-Dalit women are in DWCRA groups and two women are part of the government's Antyodaya poverty scheme.

Therefore, poor human capital in terms of education and skills leaves many Dalits without alternative income avenues from which to generate capital to sustain their livelihoods. By comparison, by equipping their children with higher education and concentration in relatively more skilled self-employing occupations, non-Dalits are ensuring that their children are presented with alternatives and are able to compete in the growing agriculture and allied markets, as well as the formal employment sector. Without State intervention to emphasise human capital building for Dalit children and young adults, future livelihoods are perched precariously as non-Dalits reap the benefits of government policies attuned to contract farming and drip irrigation schemes.

VI. Social Changes in Caste Relations

A. Demo Project

Finally, an immediate source of concern for the Dalits on the closure of the Demo project is the prevailing caste tensions arising from the project itself. With higher wage rates offered by BHC Ltd for agricultural labourers in the Demo fields, many forward caste landowners in particular were forced to compete with BHC Ltd for labour during the Demo project period. The lessening cycle of dependency of particularly Dalits on non-Dalits for employment emerged with the Demo project engaging 75 percent of Dalits in its fields. This forced a situation in which the forward castes had to raise their daily wage rates to Rs.30 for women and Rs.40 for men, to encourage agricultural labourers to remain in their fields. However, now that the Demo project has been completed, the dominant forward castes in particular are taking advantage of the renewing dependency of Dalits on them for work to reassert their socio-economic dominance in the village.

Wages in the dominant castes' fields are now slowly decreasing to around Rs.30 for women and Rs.35 for men, but this time without lunch provisions by the landowners. Moreover, many dominant caste landowners are employing agricultural labourers from outside the village, with the Cheldiganipalli Dalits facing taunts to go back to their Israeli friends to find work. These veiled threats of being denied work in the dominant castes' fields once the rains come are thus being utilised to re-establish caste hierarchical power relations between Dalits and the dominant castes.

For the livelihood capital-poor Dalits, having acquired no new skills or work opportunities from the Demo project and lacking the financial capital to invest in Demo-style high input agriculture, options are again closed. Either they must migrate outside the village in search of work, or renew their dependency on the dominant castes by returning to work in the dominant castes' fields within the village. This brings with it a host of issues, not least renewed suffering of untouchability practices in the workplace and renewed links between labour, land and credit markets for the dominant castes to exercise power over Dalits. Hence, the message being driven home to Dalits is that any new process of development may have a short-term benefit

for those below the untouchability line, whereas in the long term the dominant castes will not only be able to seize much of the benefits, but also retain their hold over Dalits in terms of employment set on their (exploitative) terms.

B. 2-KR and 3-KR Systems

In a similar manner, the conditions set for access to drip irrigation benefits under the 2-KR and 3-KR schemes indirectly closed off these schemes to the majority of natural resource- and financial capital-poor Dalits. Instead, many have witnessed the widening economic gap between them and the non-Dalits, with particularly the dominant castes reaping the vast majority of benefits under both schemes to enhance their livelihoods. The cost has been the decreasing livelihood security for Dalit households.

In villages such as Gandhinagar and to a lesser extent Konganapalli, dependency on Dalit agricultural labour by dominant caste landowners has drastically decreased with the introduction of drip irrigation technology. As previously mentioned, with increasing acres of land being brought under more intensive cultivation, per acre labour requirements have reduced. Therefore, while the labour force size may decrease, labour extraction simultaneously increases per labourer. Again the result is more benefits for the non-Dalit farmer and increasing hardship for the Dalit labourer both in terms of finding work and the nature of work extracted from her/him.

Overview Analysis: Human Rights Perspective

Two concurrent processes have been taking place in the Kuppam area, in line with the Andhra Pradesh Government's vision for agriculture in the state: one is contract farming in dryland areas; the other is development of these rain-fed areas through new irrigation technologies. The Demo, 2-KR and 3-KR projects are all linked in that the same company, BHC Ltd has been granted an exclusive contract to provide drip irrigation piping and introduce Israeli cultivation and irrigation technology in the area. Notably, the Israeli model of agriculture is held out as a cooperative agriculture model, to allow companies and farmers to interact and facilitate technology transfer to farmers for future efficient and competitive agricultural practices.

The State Government envisages that by consolidating small and marginal landholdings under contract farming in particular, aided by research and the use of modern technology, the result will be low-cost, high quality agricultural produce. In the process, other benefits will include technology transfer to local farmers with continual technical advice available, assured markets and superior inputs. These moves place the State's agricultural policy in line with current globalisation macro-economic policies of trade liberalisation and privatisation, by encouraging private companies to enter the agricultural scene to transform agricultural operations into more efficient units able to compete more effectively in the market. In the process, allied occupations are expected to spring up, shifting the agricultural labour force into higher employment opportunities in agriculture-allied and non-agriculture occupations, while mechanised agriculture will quadruple agricultural production levels.

However, from both the points of view of access to opportunities and access to benefits, a clear caste line has been drawn between those who the Kuppam Demo project and subsequent drip irrigation schemes have benefited and those who have lost out in terms of livelihoods. The reason lies in the application of a macro-economic policy without adequate consideration of the peculiarities that mark the Andhra Pradesh socio-political and economic context. These peculiarities include caste discrimination, which debars most Dalits from access to key livelihood assets of natural and financial resources, human capital and opportunities.

Hence, while contract farming, new irrigation technologies and methods of cultivation have been introduced, the emphasis on reshaping modes of production has missed an essential component for building equity into rural agricultural livelihoods. Access to resources and opportunities for all to benefit from the fruits of development has to be ensured, particularly for the Dalits as a poor and marginalised section of society. By not placing any emphasis on this component, contract farming and drip irrigation have not merely reinforced the existing socio-economic patterns, but also further widened the gap between Dalits' and non-Dalits' livelihood capitals. Moreover, these agricultural development schemes have resulted in denying Dalits their right to work, linked to access to resources; their right to health, particularly under the Demo project; and the right to sustainable development of livelihoods.

Broad Impacts of Contract Farming and Drip Irrigation Projects		
Area	Dalits	Non-Dalits
New occupations and/or skills	<ul style="list-style-type: none"> - only one Dalit engaged as tractor driver in Demo farm, while the one Dalit supervisor was sacked after six month for requesting payment of wages to the labourers - no new occupations or skills obtained, as no technology transfer or capacitation training given to Dalits under Demo project or 2-KR or 3-KR schemes 	<ul style="list-style-type: none"> - majority of new jobs under Demo farm such as supervisors, irrigation managers and tractor drivers went to non-Dalits while no technology transfer or capacitation training given under Demo project, the exact opposite was experienced for those introducing drip irrigation under the 2-KR and 3-KR schemes
Changes to occupations	<ul style="list-style-type: none"> - decline in cattle herding due to lack of grazing land availability due to contract farm - work of watering fields disappearing under introduction of drip irrigation 	<ul style="list-style-type: none"> - decline in cattle herding due to lack of grazing land availability due to contract farm - decline in bullock cart carriers due to both lack of grazing lands as well as shift to use of machines for ploughing - increase in use of cattle for milk vending purposes
Agricultural labour	<ul style="list-style-type: none"> - increase in secure agricultural labour work during Demo project leading to increased income and food security, though coupled with greater labour extraction by BHC Ltd officials - post-Demo no new work opportunities for agricultural labourers, signalling return to dominant castes' fields - huge reduction in both labour requirements and annual workdays available due to introduction of drip irrigation and increasing mechanisation of agricultural operations - increasing load for women in particular in drip irrigated fields due to shift to intensive cropping - more migration not only in the agricultural off-season but also throughout the year, noticeable especially among Dalits reliant on agricultural labour work in fields of dominant castes implementing 2-KR and 3-KR schemes; migration is into waged labour jobs outside village and as far as Bangalore greater occupational diversification into casualised labour works to cope with changes to livelihood due to contract farming and drip irrigation schemes 	<ul style="list-style-type: none"> - post-Demo, dominant caste landlords are reasserting their power over Dalits by threatening to deny them work in their fields for having accepted higher waged work during the Demo in lieu of working in their fields - dominant caste landowners getting drip irrigation maximise profits by increasing acreage of land under cultivation due to water saving under drip irrigation, extracting more labour from a smaller agricultural labour workforce - decreasing dependency on labour due to drip irrigation - though experiencing the same problems as Dalits, backward caste labourers still enjoy greater number of annual workdays in agricultural labour

Cultivation	<ul style="list-style-type: none"> - no Dalit possesses sufficient land or financial capital to invest in contract farm-style intensive cropping system utilising high fertiliser and pesticide inputs - decline in cultivation workdays because of both decreased land fertility due to Demo project's use of high quantities of pesticides as well as drought 	<ul style="list-style-type: none"> - still greater annual workdays in agriculture for non-Dalits, who own greater extents of land as compared to Dalits - landowners possess sufficient land, assured irrigation sources and financial capital to switch to Demo -style intensive cropping system utilising high fertiliser and pesticide inputs - those with drip irrigation now increasing acreage under cultivation to gain higher yields and more profits - ability to access government sericulture schemes combined with drip irrigation is meaning a shift to more profitable forms of agriculture
Land markets	<ul style="list-style-type: none"> - little change as yet, though introduction of drip irrigation and its benefits may see land prices rise - landlessness still more prevalent among Dalits than non-Dalits 	<ul style="list-style-type: none"> - still controlled by the dominant castes
Credit markets	<ul style="list-style-type: none"> - post-Demo many Dalits are resorting to loans to tide them over until start of next agricultural season - increase in loans due to decreasing agricultural labour and cultivation workdays - increasing reliance upon dominant caste moneylenders and landowners for loans 	<ul style="list-style-type: none"> - dominant caste control over informal credit market strengthened with decreasing labour opportunities for Dalits and lack of savings leading to increase in loans from particularly forward caste landowners
Other impacts	<ul style="list-style-type: none"> - less child labour during Demo period due to Dalit adults securing full-time work in agricultural labour; however, this may change due to their return to previous working pattern on completion of the Demo project - decreasing livelihood security levels - increase in particularly skin diseases due to high pesticide and fertiliser use during the Demo project, leading to greater health-related expenditure for mostly Dalit agricultural labourers and hence vitiating to some extent increased wages 	<ul style="list-style-type: none"> - increase in financial capital in the form of savings due to increasing income from agriculture using drip irrigation - increasing livelihood security levels

Right to Work

Under *Article 41 Indian Constitution*, as expanded by *Article 6 International Covenant on Economic, Social and Cultural Rights 1966*, the Indian State has the duty to safeguard each citizen's right to work, which includes the right of everyone to the opportunity to gain her/his living by work which s/he freely chooses or accepts. Steps to be taken to fulfil this right include technical and vocational guidance and training programmes, policies and techniques to achieve steady economic, social and cultural development and full and productive employment under conditions safeguarding fundamental political and economic freedoms to the individual.

However, the State Government's response has been to date tainted by its overt approval of contract farming without consultations with Dalits and other communities who are most likely to be affected by increased mechanisation, irrigation technology and emphasis on corporate control over people's control. The Demo project, on the face of it, may have had both social and economic benefits for the Dalits of Cheldiganipalli village. They encountered for the first time a lack of caste discrimination in the workplace as well as a doubling of their annual workdays and monthly wages. Nevertheless, by increasing wages to act as incentives to draw a maximum of Dalit labourers into the project, BHC Ltd could then exploit their human labour capital to conduct intensive agriculture for higher profit. In return, the small lease amounts paid to the Dalits for their marginal landholdings were far outweighed by the profits received by the company, in addition to the large financial outlay by the Andhra Pradesh Government for the company's services and technology transfer. By contrast, for the dominant castes, greater extents of land ownership ensured that not only did they receive more in terms of lease amounts, but simultaneously retained lands for cultivation to continue their livelihood occupation at the same time.

Opportunities to branch out into new occupations arising out of the Demo project went to almost all non-Dalits. With no technology and skills transfer to agricultural labourers at the end of the project, Dalits gained no long-term benefits to enhance their livelihoods. Additional income during the project had gone into enhancing food intake and into health-related expenditure. Market linkages developed

through the project did not develop into any labour shift from agriculture into allied sectors, as envisioned in Vision 2020 as an outfall of agro-industrial growth.

Moreover, drip irrigation and well benefits flowing from the contract farm were distributed along the lines of those holding socio-political power, namely the dominant castes of the village. Dalits received only one borewell and drip pipes. Despite an emphasis in Vision 2020's agricultural strategy on development priority to women in agriculture, Dalit women received no technological or capacitation benefits. Moreover, gender discrimination persisted during the Demo project, with women agricultural labourers receiving Rs.10 less than their male counterparts for the same work in violation of *Article 39(d) Indian Constitution* and *Article 11(1)(d) Convention on the Elimination of All Forms of Discrimination against Women 1979*.

Most Cheldiganipalli Dalits remain in the same socio-economic condition as they were prior to the project, the government failing to take steps to promote with special care the economic interests of Dalits as laid down in *Article 46 Indian Constitution*. By taking no steps to ensure that the company abided by contract farming terms of technology transfer, active participation of farmers at all levels and assistance to enable farmers to translate contract farming methods of production onto their own lands, the government allowed this experiment to become no more than corporate farming. Hence, corporate profit maximisation became the goal rather than equipping poor and marginal farmers with capabilities to increase agricultural output on their lands and hence livelihood income.

A combination of factors are now in place to destroy whatever meagre livelihoods Dalit cultivators earned previously from their lands. One factor is the resulting decrease in soil fertility due to high concentrations of pesticide and fertiliser residues from the Demo farm. Another factor is ground water depletion due to increased groundwater extraction for irrigation during the Demo project period to ensure high crop rotations and yield profits. Finally, the prevailing drought in the district is hitting the Dalits hard.

While the dominant castes have greater natural capital – land and assured irrigation water sources - and financial capital to invest in

the higher input costs required for Demo style cultivation utilising drip irrigation, marginal Dalit landholders lacking sufficient natural and financial capital are caught in a catch-22 situation. Not only can they not afford the new cultivation costs or borewells to access drip irrigation, but neither do they have the capital to invest in returning their lands to their former pre-Demo state to reinstate traditional cultivation patterns and crops.

The Demo project has also disturbed caste relations in the village, with implications for Dalits' right to work. The Demo project succeeded to a certain extent in breaking the pattern of economic dependency by Dalit agricultural labourers on the dominant caste landowners for work. However, post-Demo, by overt threats of denial of work to Dalits for having chosen to work in the Demo project over their fields, the dominant castes are now seeking to restore caste relations in the village. They are lowering wages that were raised to compete with the Demo project's wage levels and are denying some Dalit agricultural labourers work in their fields. Dalits are thus faced with the choice of submitting once more to lesser work conditions in the dominant castes' fields, or migrating out of the village in search of agricultural or other waged labour works. As yet it is too early to say what livelihood choices Dalits will opt for, most waiting for the dominant castes to commence agriculture in their fields to see who will be given work.

Post-Demo, the Dalits have been left where they were to start with, the government's only interventions in the form of DWCRA savings and credit groups and the 'Food for Work' programme. While the poor success of DWCRA schemes can be perhaps judged from the lack of savings among Dalit agricultural labourers one year after the end of the project, government officials cheating the Dalits of their rice rations due under the latter programme again reinforces the culture of labour exploitation of this community.

In a similar manner, under the 2-KR and 3-KR drip irrigation schemes, the State Government has blatantly ignored its own stipulations that these systems should be granted to small and marginal farmers. Access to the benefits of these schemes have rested with a majority of medium to large non-Dalit cultivators for several interlinked reasons. They have greater access to natural resources in terms of larger landholdings and assured irrigation sources in the form of wells.

Their greater financial capital allows them to meet more easily the no-loans stipulations in the case of 3-KR applications. Further, they utilise their social contacts to better understand the risks and benefits of drip irrigation. Finally, they have a greater ability to risk implementation of these schemes, again due to their possession of larger financial and natural capital than Dalits. By contrast, lack of livelihood assets debars most Dalits from accessing the schemes, as exemplified in Konganapalli where most Dalits are unable to meet the no-loans stipulation to access the 3-KR subsidy.

The overwhelming majority of dominant caste landowners granted drip irrigation under these schemes on their medium to large landholdings have thereby further increased their natural resource base and hence financial assets. In addition, with the 2-KR and 3-KR projects linked to sericulture subsidies, and with technology transfer implemented under these schemes, these government programmes are only widening the gap between livelihood capital-poor Dalits and non-Dalits.

The costs in terms of agricultural labourer livelihoods have been high. Dominant caste farmers are now mirroring the Demo project in terms of exploitation of a smaller Dalit labour force to augment their financial base. The per-acre labour requirement in the dominant castes' fields is decreasing, while the acreage under drip irrigation cultivation increases. This is leading to non-Dalit landowners exploiting Dalit labour power to demand harder work for wages that are barely commensurate with current consumption expenditure patterns. Evidence of this is found in falling annual workdays coupled with longer working days, particularly for Dalit women who are still required for certain agricultural operations such as weeding. The result is a rising contradiction between greater dependency by Dalit agricultural labourers on the non-Dalit landowners for work and the lessening of non-Dalits' agricultural labour requirements.

Hence, agro-industries driven by the export market and new drip irrigation technologies are being implemented without adequate, if any, consideration for the socio-economic and political factors at the local level which exclude a large caste-class from accessing these changes. Dalits who possess low livelihood capitals are thereby left to negotiate the market changes in several ways:

- (i) Increasing migration to neighbouring agricultural fields or to Bangalore city to engage in waged occupations such as cable laying, brick making or construction work. This is particularly the case in Gandhinagar, where the 2-KR system implementation has both reduced labour requirements in the Moddalayanka dominant castes fields, as well as decreased annual workdays for the Dalits. Cheldiganipalli Dalits are temporarily migrating until the start of the next agricultural season in the village. But with the dominant caste landowners re-asserting their dominance over the Dalits through threats of non-employment and drought affecting the area, livelihood income security is as yet not assured to the Dalits.
- (ii) Increasing shifts from cultivation to agricultural labour, the combination of drought and reliance on increasingly irregular rainfall patterns for irrigation, as well as the Demo project's effects on Dalits' land, increasing the potentiality of this option. Falling workdays in cultivation for Dalits, coupled with simultaneous increases in cultivation workdays for non-Dalits able to access drip irrigation, serve as indicators of this trend.
- (iii) Increasing livelihood diversification into waged labour occupations to supplement lesser employment security in the dominant castes' fields brought on by the introduction of the drip irrigation systems and the completion of the Demo project with no skills transfer to Dalits. Casualisation of labour brings with it lesser guarantees of respect for the right to just and favourable conditions at work, such as minimum wages and medical aid on the worksite. By contrast, for non-Dalits, livelihood diversification takes place into self-employed occupations, their greater cultivation workdays indicating secondary occupations being utilised to augment financial capital.
- (iv) Increasing consumption and health related loans to tide over the family, directly attributable to falling workdays in agricultural labour and cultivation, particularly under the 2-KR and 3-KR schemes. In terms of the Demo project, while as yet the full impacts have not been realised, already Dalits are returning to the dominant caste landowners and moneylenders in particular for consumption-based loans to tide them over until the start of

the next agricultural season. Moreover, with contract farming having introduced a range of changes to natural resources and labour relations, decreasing land and labour capital may force many more Dalits to rely on the informal credit market to meet their daily needs in the future.

Ultimately, what these globalisation driven projects exemplify is the effect of an economic growth-driven development process that does not place people, especially the poor and marginalised, as its central concern. Without adequate regulation of contract farming and irrigation technology transfer, labour exploitation without skills transfer has merely co-opted the Dalits into the rung of unskilled labourers. They may have temporarily found increased labour work in the Demo, but without long term enhancement of livelihood capital to pull this community out of this poverty, livelihood insecurity has only worsened.

Already, FAO studies have indicated that while farm consolidation to increase market competitiveness may lead to greater production levels and more efficient modes of production, it also has grave potential to lead to displacement and marginalisation of low-income and resource-poor farm labourers and small cultivators, as well as undermining local food production, without sufficient protection mechanisms such as targeted employment programmes and food supplies. This in effect institutionalises discrimination against the poor and marginalised.

High Commissioner for Human Rights, Globalisation and its Impact on the Full Enjoyment of Human Rights, 2002, paras. 34 - 42

Right to Health

When a community already possesses lower health standards in general, increasing labour extraction coupled with decreasing workdays has multiple negative implications for Dalits' right to health. When combined with the factor of intensive cultivation utilising high quantities of fertilisers and pesticides, as required under contract farming, the result is greater ill-health and health-related expenditure for Dalit families that have no financial capital to meet such costs. Where government healthcare facilities are poorly run and dispense inadequate healthcare, the only option becomes costly but more professional private healthcare services. This leads to a substantial increase in health-related expenditure and thereby loans.

As Dalits rely upon their labour strength to provide for their families, health-related loss of workdays exacerbate their poverty situation and hinder development of the community.

Right to Sustainable Development of Livelihoods

While higher incomes and higher economic growth may result under these contract farming and drip irrigation schemes, the socio-economic costs in terms of Dalits' livelihoods are also high where these schemes are formulated without the following: a sufficient caste-class perspective in terms of ownership, control and access to livelihood assets and resources; and an underlying motivation to guarantee the right to livelihood for Dalits and other poor and marginalised communities. The government's promises in Vision 2020 are large. However, with the government withdrawing from active participation in social welfare services for Dalits and from direct intervention in development processes, this leaves the poor and marginalised dependent for their livelihoods on the market. However, a market that does not focus on redistribution of resources and equal access to opportunities, assuming instead a level playing field without caste – class distinctions, can only result in further denial of Dalits' right to livelihood security and sustainable development.

Main Recommendations

The alternative is for agricultural policy reform based on ensuring this equality of opportunity in access to basic resources, employment and fair distribution of income and related human capitals of health and education, as laid down in *Article 8 Declaration on the Right to Development 1986*. This must come from an understanding of the low human capital possessed by this community as a result of caste discrimination and the caste-class dynamics that mark Andhra Pradesh agriculture today. It is these dynamics which deny the substantial base of Dalit agricultural workers and marginal cultivators in particular access to natural resources, markets and opportunities to access the 'vehicles of development' proposed by the government. By taking into account these dynamics, the State Government could facilitate realisation of the full potential of the Dalit masses in the state.

Bearing this in mind, the State Government should respond through such measures as:

- Implementing a rehabilitation plan, financed by BHC Ltd, for all those Dalit and other poor farmers who lack the means to transform their lands made less fertile due to the Demo experiment into cultivable land once more.
- Reviewing its agricultural policy that promotes contract farming inviting private companies to participate in agricultural development as to what safeguards and measures should be taken to ensure that poor and marginal farmers and agricultural labourers are made key stakeholders and active partners in the process and management of all joint farming contracts.
- Placing greater emphasis on cooperative farming for small and marginal farmers, with sufficient and sustained government financial and technical support until such cooperative organisations are self-sufficient and have autonomy to operate on market based principles. Particular emphasis here should be placed on capacitating women from the target communities to undertake such ventures.
- Introducing a quota system in all minor irrigation schemes in rain-fed, dryland areas for Dalit, Adivasi and single women small and marginal cultivators, to ensure that they are able to access the benefits of such schemes.
- Placing specific emphasis on inclusion of women, particularly single or landless women which includes many Dalit women, in all agricultural development schemes to ensure they receive a fair share of the benefits as well as capacitation in new technologies.
- Better targeting of subsidies towards small and marginal cultivators such as Dalits, as with all minor irrigation schemes, by ensuring that pre-conditions do not exclude Dalits from application for the schemes, and that such schemes are monitored to ensure they reach the small and marginal cultivators.
- Facilitating access to the formal credit market, which is required if Dalits and other financially poor communities are to realise the benefits of agricultural development schemes on their lands.

- Enacting a state law in partnership with Dalit and other agricultural labourer communities to protect the rights of agricultural labourers against exploitation and ensure their minimum wages, equal wages for women and men, adequate working conditions and social security.
- Fully implementing land reforms and land ceiling laws to guarantee to every landless Dalit family at least 3 acres of land, registered in the name of the Dalit woman of the household.
- Enhancing the human capital of Dalits through sustained programmes to bring Dalit children into education, to reform public healthcare to make it more accountable and efficient, and to enhance the capacities of Dalits through targeted training programmes that enable Dalits to merge into the agriculture market on par with non-Dalit communities.

Endnotes

1. Rural Labour Inquiry, Report of General Characteristics of Rural Labour Households, 1974-75, 1993-94, Labour Bureau, Ministry of Labour, Shimla.
2. NB: villagers from Cheldiganipalli village claimed that a total of 220 acres were actually given for the Demo project, as per Table 1.
3. K.R. Chowdary et al, *Contract Farming at Kuppam: signals from Israeli Technology Demonstration*, Andhra Pradesh Coalition in Defence of Diversity, 2000, Hyderabad, at pp. 5-6.
4. Ibid, at pg. 8.
5. KR refers to the Kennedy Round of trade negotiations from 1963 to 1967, at the time one of the most ambitious free trade rounds. Use in this Andhra Pradesh context perhaps encapsulates the government's ambition to modernise agriculture along free trade lines of efficiency and competition, introducing new technologies to 'revolutionise' agricultural methods in dry areas through minor irrigation schemes.
6. Status of applications for 3-KR scheme, Agriculture Department, Ramakuppam mandal, Chittoor district, April 2003.
7. Note: With groundwater over-extraction and drought conditions prevailing throughout Chittoor district since 2000-2001, even borewell irrigation is becoming less secure, with borewells currently having to be dug to a depth of between 350 to 500m to find water. Again, those with financial capital, mostly non-Dalits, will be the ones able to negotiate this changing scenario.
8. The SC Finance Corporation had played a role in enabling three Dalit households from Cheldiganipalli to acquire borewells, while one household had bought a borewell out of their own funds.

Chapter 4

Who Benefits from Watershed Development?

“To realise the goals of equitable development and growth in the agricultural sector ...the focus needs to shift to developing backward, drought-prone and rain-fed areas. To encourage agriculture in dryland regions, the State will ... encourage watershed development”

Vision 2020, Andhra Pradesh Government

Introduction to Andhra Pradesh Government's vision for Watershed Development

Part I Tavalam and Gerigelavanka Watersheds

- Profile of watersheds
- Socio-economic and political background to watershed villages

Part II Watershed Development Process, Participation and Impact on Livelihoods

A. Process of Implementation of Watershed

- Consultation and right to information; inclusion of lands in the watershed; inclusion in watershed institutions; transparency in financial decision-making; capacitation and watershed skills training

B. Participation in Watershed Development Activities

I. Right to Labour and Employment

- New work opportunities during watershed development; work opportunities after watershed development; changes to occupation and migration patterns

II. Changes to Natural Capital

- Land ownership patterns; shifting land markets; irrigation sources; access to common property resources

III. Physical Capital

- Status of ownership of livestock, agricultural equipment, modes of transportation and household goods

IV. Economic Capital

- Savings and loans; access to credit market

V. Human Capital

- Health and food security; education levels; government skills trainings

C. Expected Impact of Watershed Development

D. Social Changes in Caste Relations

Part III Overview Analysis: Human Rights Perspective

- Summary of key impacts and potential impacts of watershed development
- Major recommendations

With over 70 percent of the state's population involved in agriculture as a primary occupation, access to and ownership of adequate land and irrigation water resources is essential to sustaining the livelihoods of the majority of rural people. Around 60 percent of the total gross cropped area in Andhra Pradesh consists of drought prone and rain-fed dryland. In these dryland regions the lack of assured irrigation sources heightens the risk factor for those involved in agriculture and agriculture allied activities. This factor has assumed large proportions with severe drought gripping the state for the past two years and falling groundwater levels due to both the drought and over-extraction of ground water.

The State Government has recognised both the inequitable development of agriculture in dryland areas and the high poverty levels found in these areas, which are beset with a myriad of problems that poverty brings: malnutrition, illiteracy, poor employment opportunities and the ensuing social tensions.¹ With lack of access to land and assured irrigation linked to poverty levels in an agriculture-dependent rural setting, what is not similarly emphasised is the direct link between ascribed deprivation due to caste and the resultant poverty and differing levels of access to resources.

Watershed programmes explicitly recognise that:

1. *Natural resource degradation impacts on the livelihood security of the poor.*
2. *Reversal of the degradation process can help in enhancing the livelihood asset base of the poor and thus positively contribute to their livelihoods.*
3. *Limited investments are only 'additive' in nature and do not substitute for regular development or poverty reduction programmes.*
4. *The institutional base established during project implementation could serve as effective convergence platforms for further development of the watershed area and empowerment of the poor and marginalised.*

Draft Concept note on Livelihoods, A.P. Rural Livelihoods Project,
Government of Andhra Pradesh

Vision 2020: Developing Agriculture in Rain-fed Areas

Under the Andhra Pradesh Government's Vision 2020 for Agricultural Development, the government identifies three imperatives of harvesting water resources, developing agriculture in drought-prone

and rain-fed areas and driving economic growth through policy reform. Focus on developing rain-fed areas utilising new irrigation technologies and harnessing water resources is stated to be essential to increasing agricultural GSDP and spurring the government's ambitious growth rate of 6 percent per annum, while simultaneously reducing poverty in these regions.

Citing small, uneconomical land holdings, low crop productivity, lack of assured supply of inputs, lack of technologies and cropping systems suited to dryland conditions, poor resources and inadequate extension and support services, government initiatives to encourage agriculture in dryland regions include:

1. Promoting soil conservation strategies to prevent land degradation.
2. Orienting research towards the development of dryland agriculture such as developing seed and crop varieties that can withstand drought, and by promoting location-specific technologies that suit local resources and which fulfil farmers' stated needs.
- 3 Promoting allied sector activities which are not land or water intensive and provide more secure livelihoods like poultry, dairy and livestock.
4. Ensuring availability of high quality inputs - seeds, pesticides and fertilisers – at low cost such as bio-fertilisers or organic manure.
5. Promoting crops and cropping patterns best suited to dryland conditions.

In this context, the State Government promotes watershed development as 'the only solution to ensure drought proofing and to mitigate the distress caused by frequent droughts.'² It is one major method to ensure the sustainable development of agriculture in dryland regions. Its technical aims include increasing employment opportunities and income security for the poor not only throughout the project, but also in terms of increasing agricultural labour opportunities. In addition, it aims to increase alternative livelihood activities with specific focus on women, the poor and landless.

The government has set a target for the decade 1997-2007 of coverage of 10 million hectares in dryland areas across the state by approximately 20,000 watersheds, with an outlay of Rs.4,000 crore.

As in June 2003 approximately 3.2 million hectares has been covered by 8,574 watersheds, with Rs.906 crores so far spent by the government. However, unlike in neighbouring Karnataka and Madhya Pradesh, panchayats have not been involved in the implementation of watershed projects. Instead, new parallel institutions of watershed committees have been established, bypassing the panchayats. Government officials were involved at the initial stages in terms of overseeing watershed implementation and disbursing funds, though gradually many projects have been handed over to local NGOs.

In Chittoor district alone there are 620 watershed projects, 324 completed and 296 in the process of completion as in March 2003. A total of Rs.106 crore has already been spent on watershed projects in the district, each watershed being on average around 500 hectares with an average budget of Rs.22 lakhs per watershed. Being a drought-prone district with 70.75 percent of the district population engaged in agriculture and allied activities, the gross irrigated area is only 43.5 percent of the total gross cropped area in the district. Hence, as watershed implementation occurred in Chittoor district from the early stages of policy reforms, Chittoor watersheds exemplify the process of watershed development in Andhra Pradesh.

Watershed development is widely cited as a community participatory process, with the completed watershed to be managed by the community for their benefit. It therefore merits inquiry as to who are targeted as beneficiaries for these projects and what sections of the rural village community participate in and receive benefits from the watershed. Historical discrimination based on work and descent has specifically denied the Dalit community access to and ownership of resources. The result is that the small percentage of Dalits who own land are mostly marginal and small farmers with lands without assured irrigation sources in the upper reaches of catchment areas. Therefore, an analysis of caste discrimination in terms of participation in and access to benefits of watershed projects aids in understanding the impacts of watersheds on Dalit livelihoods. Moreover, with the majority of Dalits being landless agricultural labourers and therefore one of the most vulnerable sections in dryland areas, the question arises as to how large-scale watershed development across Andhra Pradesh can significantly benefit the majority of rural Dalit households.

Tavalam Watershed

Tavalam watershed, located in Nimmanapalli mandal, Chittoor district is a DPAP government project comprising Watershed I and Watershed II. Watershed development, as per the DPAP signboard, aims to promote measures for soil conservation, water protection, water harvesting, plantation, wasteland development and horticulture in the lower reaches. The watersheds were started in 1994, though actual work only commenced in 1995. They were completed in 2002 at the cost of approximately Rs.15 lakhs each. Covering a total of 2,593 acres, approximately 11 percent of land was wetland, 10 percent revenue wasteland, 18 percent *poromboke* land, 11 percent *DKT patta* land, 0.13 percent assigned land under land ceiling laws and the remaining 50 percent dryland. Initially the watershed project implementation agency was DPAP government officials, but in 1997 the watersheds were handed over to a local NGO³ to oversee.

Watershed I, which is the subject of this study, covers 570 hectares (approx. 1410 acres) of land. A total of 15 villages form part of this watershed – Tavalam, Eguvapalli, Jallavaripalli, Vuntavaripalli, Nallamvaripalli, Unsaladinne, Sriramapuram, Chinthalavaripalli, Kummarapalli, Nayinivaripalli, Muthakanibanda, Kondasanivaripalli, Mallikarjunapuram, Chavikalivaripalli and Saikalapalli. Backward caste families numerically dominate the villages and hence approximately 500 backward caste families contributed around 860 acres (70 percent of land) to the watershed. Around 100 forward caste families added a further 500 acres (19 percent), while 100 Dalit families contributed a mere 50 acres (4 percent) of land. While DPAP officials chose the land size for the watershed, farmers were supposedly left to decide whether to be part of the watershed or not. In effect many Dalit landholders were just told their lands were to be part of the watersheds.

During the project period, a total of 16 checkdams, 30 gully plugs and 600 to 700 diversion channels were constructed, while around 10,000m of field bunds in individual fields were laid. Stone bunds and contour bunds were also laid in around half the watershed lands. Moreover, around 150,000 tree saplings were planted, coconut trees near houses, mango trees in the farmers' fields and black jamoon, bamboo, tamarind and eucalyptus trees along the roads.

Gerigelavanka Watershed

Gerigelavanka watershed, located in Madanapalli mandal, Chittoor district was started in 1995, the project implementation agency being a local NGO⁴ receiving funds for this watershed under the Rayalaseema Watershed Development Programme (RWDP), a non-governmental initiative. The watershed's stated aim is land development, water conservation, vegetation development, livestock development, crop development, women's development and people's social and economic development.

A total of 853 acres spread out across six villages – Boggitivaripalli, Krishnapuram, DD Thanda, Mandabanda, Bommanacheruvu and Gollollaindu – are covered under the watershed, 630 acres (74 percent) being cultivated dryland, 64 acres cultivated wetland, while 159 acres of common land consists of hills, revenue poromboke land, cattle grazing land and graveyard land. By laying special emphasis on the inclusion of 281 marginal and small farmers in the watershed, this watershed was developed on 134 acres of land belonging to 35 Dalit families (16 percent of total lands), 136 acres of land belonging to 61 Adivasi families (16 percent), 206 acres belonging to 97 backward caste families (24 percent) and 218 acres belonging to 88 forward caste families (26 percent).

While each farmer in the watershed constructed field bunds on their lands, a total of 20 checkdams, 200 gully plugs, 1,300 waste wiers (trenches) in the upper reaches and contour bunds were laid and 25 wells desilted. In addition, 220,000 trees were planted in the watershed area.

Socio-Economic and Political Background to Study Villages

Tavalam village is dominated by around 200 backward caste Valmiki families (71 percent of population). Seven other backward caste families (barber and washer – 2 percent), 20 forward caste families (goldsmith, Vaishya and Reddy – 7 percent), five Muslim families (2 percent) and 50 Dalit families (30 Mala and 20 Madiga – 18 percent) are also present in the village. By contrast, only eight forward caste Reddy families (22 percent), 26 Dalit families (25 Mala and 1 Madiga - 70 percent) and three backward caste families (8 percent) reside in Eguvapalli village, located about 2 km away from Tavalam village.

Sriramapuram is home to three backward caste communities, Valmiki being the numerical majority with 30 families, followed by two washer families and one barber family. Bommanacheruvu village consists of approximately 200 households, around 75 being backward caste Vaddera families (38 percent), 100 forward caste families (Reddy and Kamma – 50 percent) and the remaining 23 households (11 percent) Adivasi families and one each of backward caste barber, potter and washer families. The Reddys dominate the village life, owning most of the lands in the village. Around 1 km away along a rocky, dirt road lies the village of Boggitivaripalli, home to 21 Dalit Madiga families (43 percent), 26 backward caste Vaddera families (53 percent) and two forward caste Reddy families (4 percent). Lastly, Doddinayuni Thanda (DD Thanda), part of Penchipadu village located 2 km away, is home to 42 Adivasi (Lambada/ Sugali) families.

Caste segregated living arrangements exist in all the study villages, with Dalit colonies located away from the main section of the village. Differences in economic levels are clearly visible when viewing the types of houses owned by Dalits as compared to non-Dalits. Only eight or 40 percent of Dalit houses surveyed are *pucca* constructions, as compared to 12 or 60 percent of non-Dalit houses. Tavalam Dalits therefore identified housing as one priority development activity they require. Moreover, Eguvapalli Dalits mentioned that the dominant caste Reddys of the village are obstructing their bid to construct *pucca* housing with government funding, seeking to prevent the Dalits at all costs from securing ownership of land and housing.

Further disparities between Dalits and non-Dalits can be observed with regard to access to basic amenities, with 13 Dalit families (65 percent) having electricity in their houses as compared to 16 non-Dalit families (80 percent). Likewise, potable drinking water facilities for all but one Dalit household (5 percent) surveyed consists of community taps, handpumps and wells. In the case of non-Dalit households, six (30 percent) enjoy separate water taps, with the remaining 14 households accessing a community tap, well or village pond for drinking water needs. And while only two Dalit houses (10 percent) have toilets in the house, six non-Dalit houses (30 percent) enjoy this facility.

The main caste-ascribed livelihood occupation of Dalit men and women in the villages is waged agricultural labour, working in the lands of the dominant caste landowners. This occupational pattern

has not changed over time, with 16 Dalit households (80 percent of Dalit households) surveyed still engaged in daily waged agricultural labour as their primary occupation in 1990. This stands in contrast to the majority of non-Dalit households who were then engaged in self-employed occupations – cultivation and petty business (50 percent) - or in more secure waged occupations – poultry work and stone cutting (10 percent). Waged agricultural labour work for Dalits brought in a lesser number of annual workdays, hence lesser wages and less permanency than self-employed jobs where non-Dalits were concentrated. Likewise, agricultural labour was found only among 12 Adivasi and backward caste households, with eight (40 percent) households counting this occupation as their primary source of family income.

With seven Dalit households owning no land and 10 (50 percent) owning semi-medium landholdings, only three Dalit households (15 percent) stated cultivation as their primary occupation. Dalit cultivators also averaged 50 less workdays in cultivation than non-Dalit cultivators. Hence, while land ownership among Dalits existed, a combination of lack of financial capital for inputs and assured irrigation sources meant that 11 of the 14 Dalit households cultivating their own or leased-in land were not in a position to make agriculture their primary occupation. It also meant that in 1990 Dalit households concentrated in the agricultural sector were by and large more vulnerable to risk factors of drought and uncertain irrigation sources due to their lesser income generation capacity as compared to non-Dalits in the same sector.

Supplementing these primary occupations, all but one Dalit agricultural labour household engaged in a wide range of waged and self-employed secondary occupations in 1990. The main secondary occupation was minor cultivation for 11 Dalit households, while eight households spent an average of one month outside their villages in construction work, earthworks or in the brick kilns. Otherwise, another source of income lay for four households in forest produce gathering for sale, while two households were also petty traders in agricultural produce. Non-Dalit households engaged in mainly self-employed activities, eight households in cultivation and five in gathering firewood for sale. Supplementary waged labour occupations - agricultural labour, masonry, construction work and earthworks – provided work for 11 Adivasi and backward caste families.

Forward caste Reddys dominate socio-political life in villages in the Madanapalli region of Chittoor district, as in many other parts of the district. They wield power in terms of local politics and are in general the large landholders, making many Dalits dependent on them for their livelihood through agricultural labour. However, in villages such as Tavalam village where the majority community are the backward caste Valmikis, it is they who often assume dominance in village life and practice caste discrimination against the Dalits. Hence, social interaction between Dalits and other castes remains confined to markets, shops and hotels.

Varying forms of untouchability and caste discrimination continue to taint Dalits' lives in the villages. In Eguvapalli village the dominant caste man who runs the PDS ration shop cheats the Dalits of their full quota of provisions, or often does not give them their rations on time. When it is the turn of Dalits to cook the midday meals for the primary school children in the village, the dominant caste families refuse to allow their children to eat the meals. Otherwise, Tavalam Dalits must always stand in the presence of dominant castes, while in teashops owned by the backward caste Valmikis the Dalits are served in separate glasses. No Dalit is allowed to enter the Tavalam village temple, while at the local PDS ration shop the Valmiki shopkeeper will not allow Dalits to enter the shop. There is instead a separate queue that Dalits must stand in and they merely hand over their empty ration bags, knowing they get cheated as they do not get to see their provisions being weighed out. Similarly, Boggitivaripalli Dalits are cheated at their local PDS ration shop, while middlemen cheat them when they go to the markets to sell their produce. Moreover, in the dominant castes' fields where many work, separate seating arrangements while eating as well as separate taps for drinking water still prevail.

In terms of political participation in local governance, across the villages the dominant castes are panchayat presidents, while Eguvapalli's panchayat currently has two Dalit representatives and Bommanacheruvu's panchayat one Dalit representative. In no case did Dalits mention that the panchayats look after Dalit needs for development, being more often than not used to push forward works that benefit the other castes in the villages. Eight years ago Tavalam panchayat was a Scheduled Caste reserved panchayat, at which time some progress for Dalits did occur in terms of the stone road

being laid in the colony and other amenities. However, since the panchayat was declared a general panchayat no Dalit has had much say in panchayat affairs.

Moreover, the free exercise of voting rights is restricted in the case of Boggitivaripalli Dalits, who often face pressure from the dominant castes during elections to vote for their candidates. Eguvapalli Dalits explained that the Dalits elected to their panchayat are often manipulated into their positions so that they will merely tow the line dictated by the dominant castes in the panchayat. In the case of Tavalam Dalits, during election times the dominant backward castes of the village usually dictate to the Dalits who they must vote for.

The Andhra Pradesh Government's introduction of parallel village committees has only further emphasised Dalits' low participation in local governance, with no reservations provided to ensure Dalits' participation. While Dalit participation in Education Committees and Savings and Credit Groups is visible in terms of numbers at least, in committees that decide allocation of vital resources such as water, Dalit participation is not generally present. As seen in the case of Tavalam watershed; Dalits may be included in the Watershed Committee, but do not have a say in the Committee's decisions. When combined with the low socio-political assets of Dalits due to continuing practices of caste and gender discrimination, the question arises as to how much this community is then able to access any opportunities or benefits that arise out of projects such as watersheds.

Process of Implementation of Watershed

Consultation and Right to Information

Tavalam Watershed

In the initial stages when DPAP was the project implementing agency, three government officials would come to Tavalam village to hold monthly meetings. Around 40 to 80 people, almost all non-Dalit villagers, attended these meetings from some of the 15 watershed villages. Dalits were not informed of the meetings, in which the officials initially explained about the concept of watershed development and its benefits. Consequently, no Dalit in either Tavalam or Eguvapalli villages knew what watershed development was, how it could be useful for their lands to increase land productivity and irrigation water security.

Towards the start of the project around 40 farmers, 20 from Tavalam and 20 from other villages, were also taken to Kuppam and shown a completed watershed. Of the 40 persons, only one was a Dalit. Gurrappa, though a Dalit landless agricultural labourer, was nevertheless taken along as he was one of the few Dalits employed in the watershed to plant trees and strengthen field bunds. However, he was simply shown the tree plantations and bunds at the Kuppam watershed, and told that if he planted trees they would yield benefits for the village. He returned with no other understanding of watershed development.

Once the watershed work commenced, DPAP officials held meetings with an average of 40 Watershed Committee and village group members, to discuss about what work had to be done for the watershed and how to go about it. The backward caste villagers of Sriramapuram complain, though, that they knew of no such meetings, indicating that not all villagers in the watershed were informed or invited to the meetings. It was when the NGO took over as the project implementing agency that the chairperson's husband called those in the village groups and Watershed Committee for regular monthly meetings, in which the proposed works and budget were not discussed. Instead, the NGO staff, Watershed Committee chairperson and her husband did most of the talking about what work needed to be done. Decisions were then unanimously taken on what works would be done and how much money would be sanctioned.

Gerigelavanka Watershed

By contrast, in 1994 staff of the NGO implementing Gerigelavanka watershed visited all the proposed watershed villages, inviting villagers from all communities to a series of meetings in which the concept of watershed development and watershed management of natural resources was explained. Meetings were held around three times per month in all the villages. By explaining the link between field bunds, planting trees on the bunds and other watershed structures and improving soil quality, water resources and thereby agricultural production, the villagers slowly began to show interest in undertaking development of a watershed on their lands.

Each village was allowed to take its time in deciding to become part of the watershed. The Dalits of Boggitivaripalli village agreed to the

project after around 20 meetings, while it took around 100 meetings and a demonstration of rainwater harvesting using a gully plug and tree plantation to convince the DD Thanda Adivasis of the potential benefits of watershed development on their lands. Around 200 Bommanacheruvu villagers attended the initial meeting called by the NGO to discuss the watershed development proposal. Thereafter the villagers initiated gram sabha meetings which changed into monthly meetings with the NGO until the villagers were ready to include their lands in the proposed watershed. In the case of Mandabanda village, though the Dalits were initially interested, due to a local dispute arising in the village, most villagers subsequently opted out of inclusion in the watershed.

It was also at these meetings that a clear policy guideline for this watershed was laid down in that priority would be given to the dry and un-irrigated lands of marginal and small farmers and the poorest of the poor for inclusion in this watershed. This placed emphasis on Dalits, Adivasis and backward castes' lands, which caused some opposition by forward castes in the villages. Many ignored the fact that with most Dalit lands being in the upper catchment areas and most forward castes owning larger tracts in the lower catchment areas, the benefits of watershed development would also flow down to the forward castes' land. Eventually some forward castes accepted this rationale, though many continued to oppose this policy which would not directly target their community throughout the development process of the watershed.

Inclusion of Lands in the Watershed

Tavalam Watershed

Selection of land to be included in the watershed was done by DPAP officials without consulting the farmers. Only two Dalit families in Tavalam village were asked to add their 2 acres of dryland and $\frac{3}{4}$ acre of wetland to the watershed. Notably, both families were better educated and owned a larger extent of land than most Dalits in the village. When the other eight Dalit families with land asked to be included in the watershed, they were simply told by DPAP officials that their lands were unsuitable. By contrast, a total of around 500 acres of land owned by backward caste families from Tavalam were included in the watershed, as was the case with all 23 Dalit

families in Eguvapalli holding a total of 40 acres of land. Similarly, only 10 of the 39 backward caste families in Sriramapuram village who could use watershed development on their lands were included in the Tavalam watershed. There, 18 acres of dryland and 2 acres of wetland were included in the watershed along with revenue wasteland around this village.

Gerigelavanka Watershed

Following discussions with the villagers, all lands belonging to the target group of marginal and small farmers, mostly Dalits, Adivasis and backward castes, except those that were well contoured, or cultivated wetland, or not able to be used in the watershed, were included in this watershed with the landowners' consent. In Bommanacheruvu village itself, 50 backward caste Vaddera, 10 Adivasi, one potter, two washerman, one barber and 10 forward caste small farmers had land in the watershed. Likewise, in Boggitivaripalli, all lands of Dalits and backward castes were included for watershed development, as were all the 50 acres of dryland belonging to the 32 landed DD Thanda families. Once the villagers agreed to be included in the watershed, a resource map was drawn up and villagers were invited to apply their new understanding of watersheds to their knowledge of their resources and needs, to decide how best to apply watershed concepts to their lands. Suggestions for inclusion of lands in the watershed and placement of all watershed works were placed by the villagers before the NGO, which then verified the feasibility of the suggested sites with engineers.

Inclusion in Watershed Institutions

Tavalam Watershed

Though Tavalam watershed started in 1994 and work was begun in 1995, for the four years that DPAP officials handled the project all watershed activities were dictated by the officials through monthly meetings often held in Madanapalli town, around 30 km away. Village groups were formed to represent each village in the watershed, which then together selected representatives to form the Watershed Committee. The village groups being dominated by the backward caste Valmiki who were the numerical majority in terms of land in the watershed, nine of the 17 Watershed Committee members were backward castes, while a Valmiki woman, Radamma was chosen

as chairperson. According to the Dalits in Eguvapalli, the chairperson's election was done without the knowledge of many of the Committee members, with only two attending the particular meeting when Radamma was elected. However, she operated as a dummy chairperson for the most part. Her husband, Srinivas, Tavalam village servant and panchayat president at the time, made most decisions in the Watershed Committee meetings.

It was only after the NGO became the project implementation agency in 1997 that Sashikala, the one Dalit woman in the 17-member Watershed Committee was told that she was part of the Watershed Committee and asked to join the meetings. Sashikala attended around 15 Watershed Committee meetings held in Tavalam village, and when the meetings fell outside the village her husband would attend in her stead. Moreover, as she was an agricultural labourer often busy with her work when meetings were called, the Committee members would simply come to her house to get her signature to say that watershed works had been executed.

The village groups in effect functioned as the Watershed Association, to which none of the Dalits in Eguvapalli or Tavalam villages were invited. The village groups would meet twice a month to discuss the status of various watershed projects in the village and, according to the Watershed Committee chairperson's husband, field bunds were laid as per the requirements of the farmers themselves. For larger watershed constructions such as gully plugs and check dams, the sites were allegedly chosen by the farmers themselves and thereafter agreed upon by DPAP officials on gaining clearance from engineers. Any disagreements between farmers as to the placement of watershed structures were supposedly settled in these meetings with both the Committee and DPAP officials. However, the high-handedness of officials was seen in that those with DKT patta lands were told that they could not object to the proposed watershed plans because they had been given government lands.

When the NGO took over the watershed implementation process little changed for the Dalits. The regular monthly meetings held in Madanapalli were not attended by the only Dalit Watershed Committee member due to her inability to spare time from agricultural labour work. Nor were the Dalits in village groups similarly able to

attend the meetings. The only difference, as perceived by the backward castes, was that the NGO got more involved in the watershed works and set more controls on how money could be spent on such works.

Gerigelavanka Watershed

Whereas there was a clear target group for inclusion of lands for watershed development, all caste groups were invited to become part of the 12-member Watershed Committee. Villagers suggested the persons to become Committee members, based on their active participation and experience in representing the problems of their communities. Hence, two Dalits, three Adivasis, four backward castes, one forward caste and two Muslims formed the Committee. Kalavathamma, a Dalit woman from Boggitivaripalli village was nominated as the Watershed Committee chairperson. Despite the huge opposition by the forward and backward castes to a Dalit woman being placed in the position of chairperson, when the local NGO stood firm on this decision and insisted that only a majority decision of all watershed members could remove the chairperson, the dominant castes were forced to accept the decision.

From Bommanacheruvu village the forward caste Kamma panchayat President, Ramakrishna became the Committee President. Gender representation was sought as much as possible, with the final Committee containing an equal number of men and women. Consensus decisions were taken by the Committee members on all watershed plans, works and funds disbursements, with regular reports on all watershed works presented in Committee meetings held four times a month. Taking into account that four of the 11 Committee members were illiterate, care was taken to explain all documents to them, so that no one signed bills and documents without first understanding their contents.

Complementing this structure, though not known formally as a Watershed Association, a committee of all villagers with lands in the watershed held meetings once in two months, at which around 200 people from the watershed villages would regularly attend. At these meetings they discussed and took decisions as regards the progress of watershed works, impact on individual farmers, future plans and the functioning of the Watershed Committee. These decisions then fed into the discussions of the Watershed Committee.

Transparency in Financial Decision-making

Tavalam Watershed

As regards the devolution of funds for watershed development, a 5 percent contribution was asked of farmers for works done on their lands in the watershed. This money was then placed in a revolving fund meant to be utilised to maintain the watershed structures. The revolving fund had a total of Rs.80,000 by the completion of the watershed, though Sashikala, as a Watershed Committee member and with land in the watershed, was unaware of the very existence of the revolving fund and had never been asked to contribute to it. For the Eguvapalli Dalits, while the 5 percent contribution was collected from them for the few works on their lands, in many cases the chairperson took their signatures on pieces of paper saying that work had been done on their lands when that was not the case.

Money from DPAP for watershed works also went into the same bank account, which was operated by the Watershed Committee chairperson and another dominant caste Committee member. It was these two people who were responsible for placing money into the village group accounts, though later this was changed with the project implementing agency drawing cheques directly in the name of the village groups to allow them direct access to watershed development money. Hence, transparency in financial accounting was missing as far as the Dalits were concerned, who never knew about the revolving fund, nor how much money was spent on what activities in the watershed. The budget was not regularly placed before Committee members, with signatures being obtained from many members outside of meetings as many only attended when they had to ask for works in their community's fields.

Gerigelavanka Watershed

As with Tavalam watershed, funds were disbursed from the project implementing NGO to the Watershed Committee, with the Dalit chairperson and forward caste secretary authorised to operate the watershed bank account. The village committee of farmers in the watershed would sit with the Watershed Committee to finalise work to be done and the proposals would be written down and sent to the NGO for the release of funds.

A revolving fund was also set up to maintain Gerigelavanka watershed, with farmers contributing 50 percent for works undertaken on private lands as well as a annual membership fee of Rs. 20 to be part of the watershed. Only landless labourers included in the watershed were exempt from paying membership fees. The revolving fund money was placed in a bank account that was operated by the Watershed Committee chairperson and a representative from the project implementing NGO, the fund growing to Rs.100,000 to sustain future works. The fund money was also disbursed to single and landless women's groups for income generating activities.

Capacitation and Watershed Skills Training

Tavalam Watershed

Outside of the one Dalit man who visited Kuppam to see a watershed there, no Dalits received any form of capacitation or training on watershed development and management. A similar story was told in Sriramapuram village, many indicating that it was only a few dominant caste Committee members, the chairperson and her husband who might have gained some understanding of watershed development and management because of their regular attendance of meetings held with DPAP officials and the project implementing NGO staff. In other words, no serious attempt seems to have been made to facilitate the villagers' understanding of watershed management as community management of water resources and land development. This thereby defeats one of the major aims of watersheds to capacitate communities to manage their local resources and environment for sustainable development.

Gerigelavanka Watershed

Watershed exposure trips to Kuppam, Chittoor and Anantapur were organised for all those villagers contributing their lands to the watershed. A small group of farmers were also taken to Hyderabad for watershed discussions at a later stage, while twice a year groups would attend camps arranged by the project implementing NGO on watershed development and management issues. In between, regular trainings were given to batches of farmers on watershed development, water conservation techniques, cropping techniques, worm culture and organic farming. Around 100 farmers and landless labourers were also trained as to tree plantation techniques

and maintaining a nursery, construction of gully plugs and check dams and how to decide where to place contour bunds. The result was further enhancement of community participation, understanding and ownership of watershed development and management.

Participation in Watershed Development Activities

I. Right to Labour and Employment

New Work Opportunities during Watershed Development

Tavalam Watershed

In the first three years of the watershed project, not much work appears to have been initiated by DPAP officials. What work was done was carried out with machinery and mainly backward caste Vaddera contract labourers brought in from outside the villages. Only in 1996 when there was heavy rainfall recorded in the region did work commence on many watershed structures. However, most of the structures were set in place only after the local NGO took over implementation of the watershed project and particularly in the final three years of the watershed development.

If one were to go by the information provided by the Watershed Committee chairperson's husband, all Dalit landless labourer families benefited from around 10 months' worth of labour work in construction of various watershed structures. The alleged unit rate of pay was a minimum of Rs.50 to Rs.70 and a maximum of Rs.150 per day for both men and women labourers, depending on the type of works carried out. However, a different story emerges from Dalits across the villages. Larger watershed structures were either built using outside labour or by the dominant caste farmers in the watersheds, the Dalits witnessing how checkdams and gully plugs were laid mostly on or around the dominant castes' lands.

Two Dalits from Tavalam and none from Eguvapalli were given work in the watershed, the Tavalam Dalits in question being employed only for planting tree saplings. It was only towards the end stages of the watershed development process, when two Reddys in Eguvapalli fought over construction of irrigation diversion channels, that 20 Dalits were then approached to take up this work for the village. The cost of work in terms of labour and materials was estimated at Rs.40,000,

but the Dalits were paid only half that amount for around a month's worth of work. That is, they were paid less than the minimum wages prescribed for construction labourers (around Rs.30 per day) and much less than the alleged unit rate of pay for labour in this watershed.

Gurrappa from Tavalam village was one of the few Dalits employed in the watershed construction, working for one and a half years planting and watering around 3,000 tree saplings along the roadside. He only came to know about the watershed's existence when he was asked to do the work, but was paid only Rs.400 per month and that too for only one year. When he asked for the remaining six month's wages, he was told by the Watershed Committee chairperson that no money had been sanctioned to pay him and that he should stop work. Gurrappa, therefore, felt there was no use protesting further. Thereafter, no one else came forward to water the trees, as a result of which barely half survived.

Mallamma from Sriramapuram estimates that approximately 500 people within the watershed villages got perhaps one year's employment out of the seven years it took for completion of Tavalam watershed I and watershed II. The overwhelming majority were backward castes and then forward castes.

Moreover, Dalits in Eguvapalli village point out that they were never consulted as regards any watershed works to be carried out in the village. Even when tractors came and ploughed channels in the revenue wasteland in the village, no Dalit was consulted over this move. Notably, these three channels have not brought any water with them, serving more the purpose of preventing severe floods, while all channels link to a reservoir in the lower lying areas where the forward caste Reddys have their lands. Hence, when next the rains come, any benefits from these watershed channels will be enjoyed solely by the forward caste large landowners. Similarly, no Dalits received any trees for their lands, despite the 150,000 trees recorded as laid throughout the watershed lands.

Sriramapuram backward castes had one checkdam constructed on their lands while gully plugs were placed on revenue wasteland, which would benefit the four or five families with lands near the revenue wasteland. However, they too cite a preference given to Tavalam backward castes and the dominant caste Reddy community in terms of sites chosen for watershed structures. In terms of employment in

watershed works, one member from each family was given employment for three years from 1997 to 1999 in either labour work building bunds, the tree nursery or in plantation of tree saplings. Gender discriminatory wage structures were followed along the lines of most agricultural labour in the area, with men receiving Rs.40 and women Rs.30 as daily wages.

As regards smaller watershed structures, the dominant caste farmers constructed field bunds and contour bunds on their own lands. By contrast, in the case of many Dalit farmers, DPAP officials or dominant castes simply came and laid the bunds on their lands, stating they would improve the Dalits' lands.

The two Dalit families with lands in the watershed from Tavalam village were told by a dominant caste in the Watershed Committee that they should not attempt to do any of the work in their lands. The reason given was that they did not know anything about watershed development and hence should not do anything to stop the watershed from being properly developed. Instead, others came in and laid bunds in one family's fields, while the other family, being the family of Watershed Committee member Sashikala, had a gully plug laid on their lands.

Interview with Sashikala, Tavalam village

Overall, Dalits in both Tavalam and Eguvapalli villages were clear that Dalits in general were excluded from any say in both the planning and the implementation process for Tavalam watershed I. The result is that they have little understanding of the concept of watersheds, their involvement being minimal at any stage in the watershed development even for those farmers with lands in the watersheds. Moreover, not even the benefits of watershed labour work came to them despite the fact that they form the majority of the landless labourer class in the watershed villages.

Gerigelavanka Watershed

In the case of Gerigelavanka watershed an equal emphasis was placed on teaming up the landed and landless for watershed development works. All labour works, from field bunds on their own lands to checkdam construction, were decided upon and executed by the villagers with minimum technical help from the project implementing NGO and experts. Gully plug and checkdam sites were

decided upon in consultations between the villagers and the NGO after surveying the land slope and water flow. Both men and women received equal wages of Rs.35 per day.

While all castes were involved in the development of the watershed, in the initial stages the project implementing NGO adopted a policy of giving work only to Dalits and Adivasis. The rationale was that as these were the two least landed and poorest communities in the watershed, they should be given priority for employment. Therefore, backward caste and forward caste villagers became involved in watershed works only after about a year. The Boggitivaripalli Dalits and DD Thanda Adivasis estimate that in this way on average at least one man and one woman from particularly each landless family got around two months employment per year for the six years of the watershed development. Overall, around 600 people, mainly Dalits, then backward castes and Adivasis, were employed during the six years of the watershed development.

As particularly Dalits were previously used by the village community for harder labour works, at least for some dominant castes the NGO's rationale was accepted and Dalits did do some work on several forward castes' lands in places like Bommanacheruvu. However, in this village and in others this priority labour policy caused enormous opposition among the dominant castes, particularly against Dalits being given preference and allowed to independently economically develop. Incidences of violence and assault of Dalits employed in watershed development did occur, and attempts were made by the forward castes to socially boycott the Dalits who had previously worked as agricultural labourers in their fields. For the Dalits, they were determined to persevere and confront the forward castes rather than give up their new work in the watershed. And eventually this opposition died down when the forward castes realised that they too would be receiving benefits from the watershed. This was due to their lands being in the lower reaches where water would percolate through the checkdams created in the upper reaches in the Dalits' lands.

In addition to direct watershed works, 35 single women and landless women were given loans from the watershed development funds for income generation activities such as petty shops, sheep rearing,

calf rearing and seasonal business. These women were also given coconut trees from which to derive an income. In this manner most Dalits have received some direct benefit in terms of employment opportunities arising out of this watershed, augmenting their income. Simultaneously, work in the watershed helped the Dalits to break a little of their economic dependence on the forward caste landowners in particular, earning them a stable income for at least two months in a year.

Work Opportunities after Watershed Development

Tavalam Watershed

It is too soon to definitively state whether new work opportunities have arisen because of this watershed, particularly with the current drought situation gripping the district. However, certainly the lack of watershed structures near Dalit lands or with a flow effect onto Dalit lands means that land productivity through more assured irrigation water sources is an unlikely prospect for small Dalit cultivators in the future. Therefore, greater workdays or more security in cultivation will not be enjoyed by the Dalits. By contrast, the creation of structures on many dominant castes' lands may enhance these communities' cultivation prospects in terms of greater access to irrigation water sources in future.

What may result is an increase in work opportunities for Dalit agricultural labourers in the dominant castes' fields, though it is too soon to say. What is happening at present is that many Dalit families are unable to cultivate their lands due to lack of irrigation water sources, the current drought dispelling chances for cultivation of rain-fed crops such as groundnut. Only 10 of the 22 Dalit families in Eguvapalli are still able to cultivate their lands, for example, while only another three families are able to sustain themselves solely from agricultural labour work. In general more Dalits are turning from cultivation to agricultural labour in the dominant castes' fields to tide their families over until the rains come, if they are lucky to find enough work there.

In this scenario, the State Government has stepped in with its 'Food for Work' programme, a programme that was extended after the completion of the watershed to provide work for mostly Dalits and

backward castes. Many Dalits from both Eguvapalli and Tavalam villages are now dependent on this programme to sustain their livelihoods, being employed to clear the irrigation water feeder channels or dig road/ field bunds. However, Tavalam Dalits point to discrimination within this programme, with Dalits being employed for harder labour works such as bund digging, while backward castes are given less physically demanding works.

Moreover, Eguvapalli Dalits note how they are cheated of their only source of income and sustenance by government officials in this programme. In one instance, while their quota for work done was 10 kg per person for a project, in reality they received only around 7 kg of rice. Thus, for many Dalits the only hope they hold out for is that the next monsoon will not fail them, allowing them to start cultivating their small plots of land once more.

Gerigelavanka Watershed

While several single women and landless women have moved into petty trade as a result of loans received from watershed funds, the plant nurseries are still running, providing around 20 Adivasi women with around two to three months' work in a year.

Moreover, villagers of all castes, barring those dissatisfied with the preferential treatment given to Dalits, Adivasis and backward castes, note that no land has lost its original productivity. Further, there has been in general a 10 percent increase in land that many farmers have been able to bring under cultivation. At least for the first two years after completion of the watershed the increased productivity in agriculture was present to a small degree due to a slight increase in ground water levels.

However, with the prevailing drought conditions, this increase has slowly dwindled. Therefore, what many Dalits can only state at present is that with the majority of watershed structures in the upper reaches where their lands lie, they envisage that when the drought eventually breaks they will see the benefits of greater water harvesting through the watershed structures. This will allow more land to once again come under cultivation and greater per acre productivity.

Livelihood Survey Results

- Drought has been the main factor resulting in the decline in annual workdays available in agriculture, leading small Dalit cultivators to shift from cultivation to agricultural labour as their primary occupation. Evidence for this is the shift of two Dalit families from cultivation to agricultural labour as their primary livelihood occupation during the period 1990 to 2003. Currently 18 Dalit households (90 percent) counted agricultural labour as their primary occupation. Moreover, all 20 Dalit households now engage in agricultural labour as either a primary or secondary occupation as compared to 19 households previously (*Table 1*).
- In terms of daily wages for agricultural labourers, in 1990 Dalit women earned between Rs.10 to Rs.25. By 2003 wages have increased in range with Rs.20 to Rs.25 being now paid for an eight-hour day in the dominant castes' fields. By comparison, Dalit men's daily wage rates have shifted from a 1990 range of between Rs.10 to Rs.30 to a 2003 range of between Rs.20 to Rs.30.
- Meanwhile the opposite trend has been witnessed among non-Dalits, who remain concentrated in self-employing occupations that provide greater number of workdays, hence greater income and job security. One non-Dalit household has shifted to cultivation as their primary occupation, while now only six Adivasi and backward caste families (30 percent) consider agricultural labour as their main occupation. When seen in the light of an already greater average number of annual workdays as compared to Dalit agricultural labourers, non-Dalit agricultural labourers still enjoy slightly better job security and income prospects than Dalits. This is also borne out by slightly better daily wage rates accorded to non-Dalits, non-Dalit women's wage rates ranging in 2003 from Rs.20 to Rs.30, and men's wage rates ranging from Rs.20 to Rs.40.
- Cultivators stand similarly adversely affected by the drought conditions in the state, with the number of Dalit cultivators in 1990 having reduced by half to only seven cultivators (35 percent)

by 2003. Moreover, only one Dalit household now claims cultivation as their primary livelihood occupation (*Table 1*).

- While non-Dalits cultivating their lands as a livelihood activity have in fact declined from 17 households in 1990 to 14 households in 2003, the actual number of households counting cultivation as their primary source of income has in fact increased from nine to 10 households (50 percent).
- Other changes to non-Dalits' primary occupational patterns are the disappearance of all other waged labour occupations outside of agricultural labour in the non-Dalit households. Instead, one non-Dalit family has shifted into tailoring and another household counts work in the watershed plant nursery as their main occupation. Only one Adivasi single female household has shifted from agricultural labour to begging for most of her days due to old age and lack of family to provide income support.
- In terms of secondary occupations, besides cultivation, Dalits remain concentrated in a variety of both waged labour occupations and low-paying self-employment activities. An increase in earthworks labour under the government's 'Food for Work' programme is one change, as well as the disappearance of the job of irrigation water distributor for another Dalit family. While traditional occupations of carpentry and leatherworks have disappeared, Dalits have moved into labour work in the markets and tailoring in others' shops (*Table 2*).
- As regards non-Dalits' secondary occupations, many Adivasis and backward castes remain spread across both waged and self-employing occupations, while forward castes remain concentrated in only a few secondary occupations such as milk vending, cattle herding and earthworks supervision. The main changes are the shift of one backward caste into weaving as well as the increase in the number of milk vendors among dominant caste families, indicating the shifting use of cattle for milk rather than ploughing due to the drought. By contrast, shrinking forest resources have seen the subsequent decline in firewood and forest produce gathering by primarily Adivasis as secondary sources of income for their families.

Table 1 Changes to Primary Occupations from 1990 to 2003

Occupation	Waged work or Self Employed/ Salaried Work	No. of Households practising Occupation						Average Annual No. of Workdays			
		Dalit		Non-Dalit		Dalit		Non-Dalit		In 1990	In 2003
		In 1990	In 2003	In 1990	In 2003	In 1990	In 2003	In 1990	In 2003		
Agricultural Labourer	Waged	16	18	8	6	200	170	190	195		
Poultry Worker	Waged	—	—	1	—	—	—	300+	—		
Stone Cutter	Waged	—	—	1	—	—	—	300+	—		
Plant Nursery Worker	Waged	—	—	—	1	—	—	—	300+		
Cultivator	Self	3	1	9	10	170	120	230	230		
Petty Shop Owner	Self	—	—	1	1	—	—	300+	300+		
Tailor	Self	—	—	—	1	—	—	—	300+		
Beggar	Self	—	—	—	1	—	—	—	180		
Village Servant	Salary	1	1	—	—	300+	300+	—	—		

Table 2 Changes to Secondary Occupations from 1990 to 2003

Occupation	Waged work/ Self Employed/ Salaried Work	No. of Households practising Occupation				Average Annual No. of Workdays			
		Dalit		Non-Dalit		Dalit		Non-Dalit	
		In 1990	In 2003	In 1990	In 2003	In 1990	In 2003	In 1990	In 2003
Agricultural Labourer	Waged	3	2	4	8	90	75	100	100
Irrigation Water Distributor	Waged	1	—	—	—	120	—	—	—
Mason	Waged	—	—	1	1	—	—	120	180
Construction Worker	Waged	1	1	2	2	30	30	75	30
Brick Kiln Worker	Waged	1	1	—	—	30	30	—	—
Earthworks Worker	Waged	6	8	4	5	30	40	80	100
Labourer in Market	Waged	—	1	—	—	—	60	—	—
Tailor	Waged	—	2	—	—	—	120	—	—
Livestock Herder	Waged	1	2	—	—	300+	300+	—	—
Livestock Herder	Self	4	4	3	3	300+	300+	300+	300+
Milk Vendor	Self	1	2	1	5	300+	300+	300+	300+
Cultivator	Self	11	6	8	4	80	70	90	70
Earthworks Supervisor	Self	—	—	1	1	—	—	60	90
Carpenter	Self	1	—	—	—	60	—	—	—
Leather Tanner & Cobbler	Self	1	—	—	—	60	—	—	—
Weaver	Self	—	—	—	1	—	—	240	—
Petty Trader (agri. produce)	Self	2	3	—	1	45	120	—	30
Forest Produce Gatherer	Self	4	4	2	—	100	100	30	—
Firewood Gatherer	Self	—	—	5	1	—	—	40	30
Fisher	Self	—	—	1	1	—	—	30	30
Tractor Driver	Self	—	—	1	1	—	—	30	30
Beggar	Self	—	—	1	—	—	—	90	—

Decreasing Workdays for Agricultural Labourers and Cultivators

- The average annual number of workdays for Dalit agricultural labourers has declined by one month between 1990 and 2003 to stand at 170 workdays, with only three households witnessing no changes to their annual workdays. Otherwise, 11 agricultural labour households have witnessed a decline of between 30 to 120 annual workdays, while the remaining five households have increased their annual workdays by 30 to 120 days (Table 3).
- Non-Dalit agricultural labourers currently secure an average of 190 to 195 workdays per year, roughly the same number of workdays as in 1990. While three households have retained the same number of workdays, four have witnessed an increase of 30 to 90 workdays in the past decade. Only five households have seen a decline of 60 to 150 workdays (Table 4).

Table-3 Dalit Agricultural Labourers - Annual Workdays

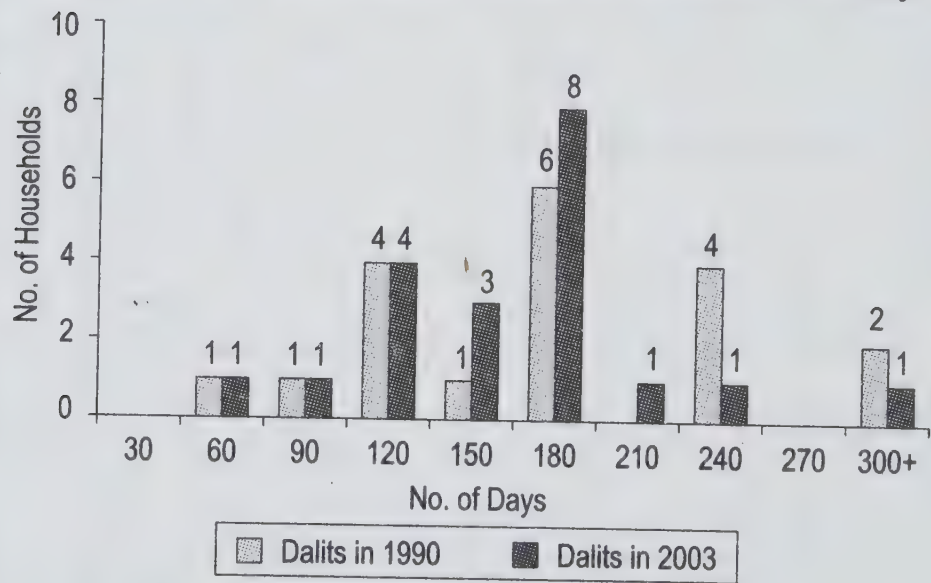
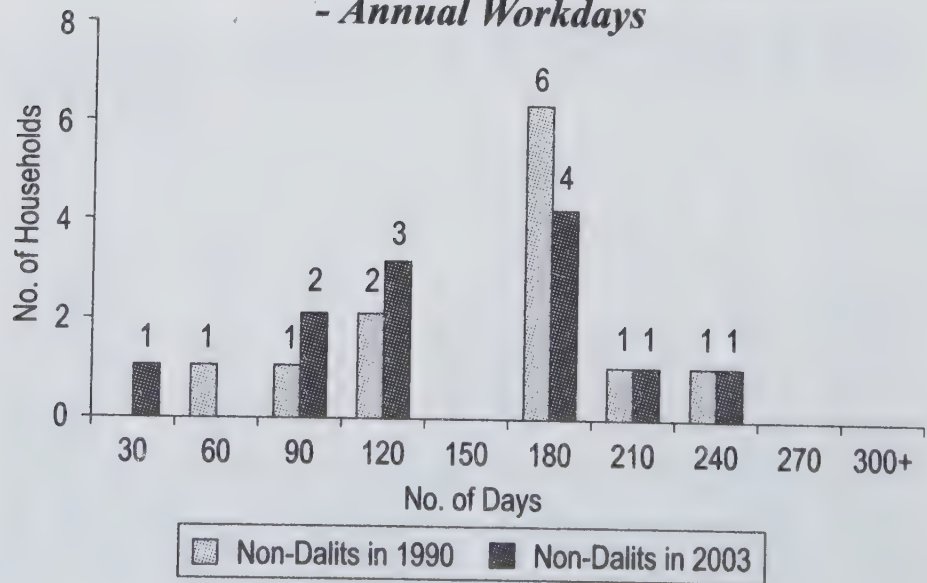


Table-4 Non-Dalit Agricultural Labourers - Annual Workdays



- The one remaining Dalit household engaged in cultivation as a primary occupation now secures work for only 120 days as compared to the average of 170 cultivation workdays for Dalits in 1990. Of the six Dalit households engaged in minor cultivation to supplement their livelihood, five have seen no decrease in their annual workdays, still securing between two to three months work cultivating one annual crop. The only other Dalit cultivator has witnessed a steep decline from six months' to two months' work, indicating their shift from cultivation of two crops to one crop in a year (*Table 5*).
- For those non-Dalits engaged primarily in cultivation, their average annual workdays remain at 230 days, still much higher than that of Dalit cultivators and without the similar trend in declining average workdays. Only one forward caste cultivator household has witnessed a decline of three months in their annual workdays over the past decade, while one other household has witnessed an increase of one month. Otherwise, all other households have retained their same workdays (*Table 6*).

Table-5 Dalit Cultivators - Annual Workdays

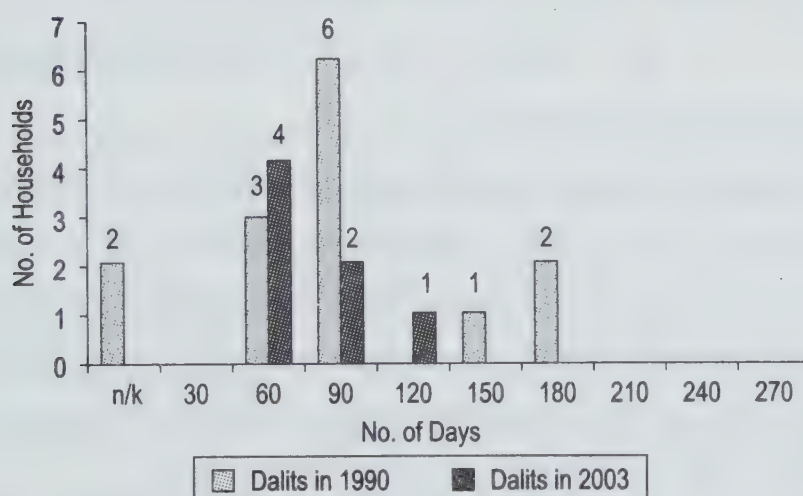
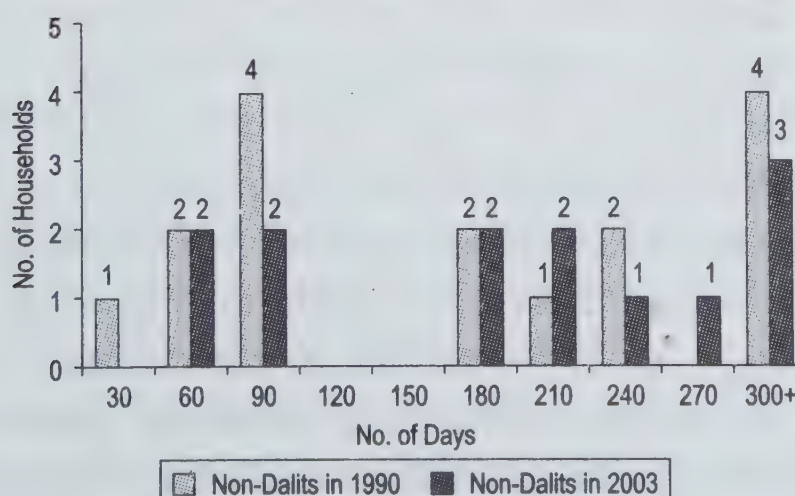


Table-6 Non-Dalit Cultivators - Annual Workdays



Migration Patterns

In the last few years, as the drought has hit in, a growing livelihood option among Dalit as well as Adivasi and backward caste communities in both Tavalam and Gerigelavanka watershed villages is migration out of agriculture. The lack of employment opportunities in the villages is forcing one member from all the 26 Dalit households in Eguvapalli to migrate to either Bangalore or Hyderabad to undertake construction work or laying of telephone cable lines or serving as watchmen. Similarly, men in Sriramapuram are increasingly migrating to nearby Madanapalli and Nimmanapalli to undertake construction work. Brick kilns have also grown up in the area in the past two months, offering another alternative avenue of employment.

Whereas prior to the drought most cultivated two seasons of crops in a year or worked in the dominant castes' fields for the two seasons, drought is ensuring a reduction in cropping for all bar those with assured irrigation sources. Hence, shrinking work opportunities in agriculture as compared to a large labour force comprising mainly Dalits, Adivasis and backward castes, and a lack of skills and opportunities to branch into new professions makes migration the main option in these areas. Lack of financial capital to tide over the family until the rains come also plays a major role in a drought scenario.

- The livelihood survey revealed that while in 1990 only one Dalit man migrated out of his village in search of work for over six months in a year, by 2003 four families (four men and one woman) have shifted into a pattern of seasonal migration. Migration works are earthworks, construction work cable laying and agriculture for between one to three months in a year.
- Similarly, four Adivasi families (three men and three women) and four backward caste families (three men and two women) are also currently engaged in seasonal migration, two Adivasi families (one man and two women) and three backward caste families (three men and two women) having also undertaken seasonal migration in 1990. Adivasi migrants work in a variety of works – cable laying, watering gardens and begging – for between two to six months (begging) in a year. By contrast, backward caste migrants engage in weaving, cable laying, construction works and agriculture for between one to three months in a year.

- All these migration work activities bring in monthly wages that range between Rs.500 to Rs.1,000 and Rs.2,001 to Rs.2,500, while only begging and watering gardens continue to pay the least (Rs.500 a month though done for longer periods in a year). Weaving earns the backward caste man Rs.2,500 per month.

II. Changes to Natural Capital

The key livelihood capital watershed development aims to improve is natural capital, that is land and irrigation water resources. For rural communities heavily dependent on the land, the direct benefit is supposed to be seen in terms of improved soil quality and water sources. This would lead to increasing land productivity and income for sustainable development of people's livelihoods. However, just how far equitable benefits from disbursements under watershed development can be achieved is questionable under conditions where land ownership is highly unequal. That is, unless there is specific emphasis made to transform caste-gender discrimination in access to key natural resources for certain social groups like Dalits, watershed development runs the risk of merely entrenching these inequalities.

Land Ownership Patterns

Discrimination on the basis of their caste has resulted in many Dalits being denied access to and ownership of natural capital, as evidenced by the concentration of Dalits in the categories of landless, then marginal and small landowners owning less than five acres of land. Since it is commonly accepted that a minimum of five acres is required for a household to derive a working income, their small landholdings lead many Dalits to engage in diverse livelihood activities outside of cultivation to sustain their families.

Moreover, Dalit lands tend to be situated on ridges in the upper catchment areas, which tend to be less fertile and more rocky as compared to the lower catchment areas and tank beds, where the majority of dominant caste landowners will be concentrated. Hence, the viability of agriculture on such small parcels of land directly links to the ability of the Dalit household to access irrigation sources, particularly in a drought prone area with erratic rainfall patterns. In addition, their possession of financial capital to purchase agricultural inputs to enhance the productivity of their land is also a key factor.

However, large financial outlay requirements for borewells and motors to pump up groundwater for irrigation again work to preclude many Dalits from access to irrigation security.⁵

There has been a shift in cropping patterns from *ragi* (millet), *jowar* (greater millet) and pulses towards cultivation of more rice paddy, sugarcane, tomato and groundnut as a result of market reorientation towards these crops around five years ago. Paddy cultivation is being further promoted through the public distribution system, on which around 85 percent of Dalit households and around 70 percent of non-Dalit households surveyed are currently dependent. Hence, food patterns are shifting away from traditional dryland crops such as *ragi* to more water intensive paddy, and more Dalit households are leasing in small amounts of wetland on which to cultivate paddy for self-consumption. Similarly, the shift towards water-intensive tomato cultivation ensures greater dependency on irrigation water, leading to over-exploitation of depleting water resources. As at 1999-2000, the two major crops in the district were paddy and sugarcane, despite the prevailing drought.

This situation is visible in all the study villages. Only around 30 of the 50 Dalit families in Tavalam village own any land, the total land area for Dalits amounting to around 20 acres. Almost all the Dalits are agricultural labourers who also sharecrop land. By contrast, almost all the majority backward castes in the village own land, only 10 households being landless. The average landholding size for backward castes is between 2 to 3 acres, extending up to 10 acres, while the forward castes in the village own larger landholdings. According to the Dalits, the differences in land ownership are the result of the backward castes occupying reserved forest land around a century ago, while preventing the Dalits from likewise occupying lands.

Around five Dalit families and 10 backward caste families cultivated for 10 years land in the tank bed of Tavalam village, which has a series of natural pits to catch rainwater. However, under the government's Neeru Meeru scheme, the government proclainers came and flattened the whole land. When the Dalits asked if they could re-dig pits in the tank bed under the 'Food for Work' programme, government officials refused, stating that such works (despite the need and their benefit for the villagers) were not part of their government programme.

Interview with Sashikala, Tavalam village

In Eguvapalli the situation is similar, with 23 out of the 25 Dalit households operating marginal and small landholdings, while 20 families also sharecrop land. The dominant forward castes all operate large landholdings of around 10 acres or more. The importance of land in this area is seen from the fact that both communities have been locked in a series of disputes over land resulting in constant caste tensions in the village.

Originally, the Dalits of Eguvapalli lived around 30 km away from the present village, their ancestors having occupied revenue wasteland in the area. However, they were expressly told by the Reddy landlord in the area that they should shift to where their village is now, away from his lands. Then almost all the Dalits' lands were taken by force from them, mainly by forcing Dalits to sign on blank papers to effect transfers of title to the land. Dalits were left with small plots of less fertile dryland. Hence, while their lands fall within Tavalam watershed I, their village in fact falls within the boundaries of watershed II.

Moreover, there remains a concerted move by dominant caste Reddys of the village to take more land away from the Dalits. Over the past few years around 6 acres having been grabbed from the Dalits by the Reddys. The latest troubles commenced from 1984, when the Eguvapalli Dalits got land passbooks which showed that they owned and had been paying tax on their lands. Some Reddys have since filed cases against the Dalits, claiming that the land belongs instead to them. The main explanation for harassment that has intensified as the Dalits started cultivating land is that the Reddys rely upon the Dalits for cheap agricultural labour. Hence, any moves by the Dalits to develop and become economically independent are quickly sought to be thwarted by the Reddys.

Interview with Ramana, Eguvapalli village

Meanwhile, 21 of the 33 Sriramapuram backward caste villagers own small to medium landholdings, while a few own up to 10 acres of land. Bommanacheruvu backward castes similarly operate small to medium landholdings totalling around 350 acres, 55 of the 75 families owning land. The forward castes in that village operate medium to large landholdings of 7 acres and above, totalling around 300 acres, while the 20 Adivasi households operate a total of around 30 acres of land. Adivasis in DD Thanda cultivate an average of 2 acres per household, 10 families being landless, while Boggitivaripalli Dalits similarly operate the same average acreage of lands, with only two families being landless. By comparison, the backward castes

of Boggitivaripalli operate around 3 acres of land, while the two forward caste families are large landholders operating around 20 acres each of primarily wetland. Only one backward caste family in that village is landless.

- The overall pattern across the study villages, as seen from the survey, is that a higher percentage of Dalits are landless as compared to non-Dalits, though two Dalit families over the past decade have bought land. The majority of Dalit households are concentrated in semi-medium landholdings of less than 4 acres, with two Dalit families having split during the 1990s leading to a loss in land owned among the families surveyed. Otherwise, two other families have bought land between 1990 and 2003, while three families have received less than one acre of land by the government under its land distribution scheme (*Table 7*).
- Non-Dalit households are concentrated in semi-medium to medium landholdings, while two households now own large landholdings of over 10 acres. Only two households, one Adivasi and one backward caste, have lost all their land due to family divisions during the 1990s. Otherwise, one household has been given land by the government, while two households have augmented their landholdings by buying land over the past decade.
- Overall, ownership of land has decreased, with the total land owned by the 20 Dalit households in 2003 being 36.1 acres as

Table-7 Landholdings

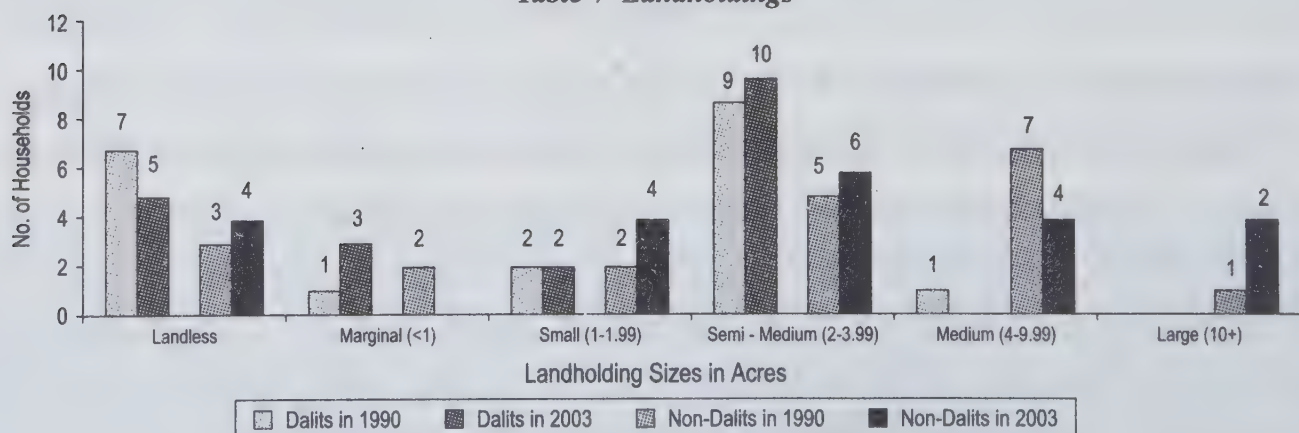


Table 8 Ownership of Wetland vs. Dryland

Land holding size	Wet land				Dry land			
	Dalit		Non-Dalit		Dalit		Non-Dalit	
	1990	2003	1990	2003	1990	2003	1990	2003
Marginal	4	7	5	5	3	4	2	--
Small	2	3	1	--	1	1	3	5
Semi-Medium	1	--	2	3	8	10	5	5
Medium	--	--	--	--	1	--	6	5
Large	--	--	--	--	--	--	1	1
Total	7	10	8	8	13	15	17	16

compared to 38.5 acres in 1990. By comparison, the total land owned by non-Dalit households was around twice as much as that of Dalits in 1990, and has increased over the past decade. While the 20 non-Dalit households owned 66.3 acres in 1990, by 2003 they have augmented their landholdings to 73.5 acres.

- Moreover, when viewing the type of land owned, while ownership of wetland was fairly evenly distributed, non-Dalits own a greater extent of both wetland and dryland (*Table 8*). Seen in the light of their greater access to irrigation facilities such as borewells and open wells, assured irrigation is still enjoyed by a greater number of non-Dalits than Dalits in the villages.

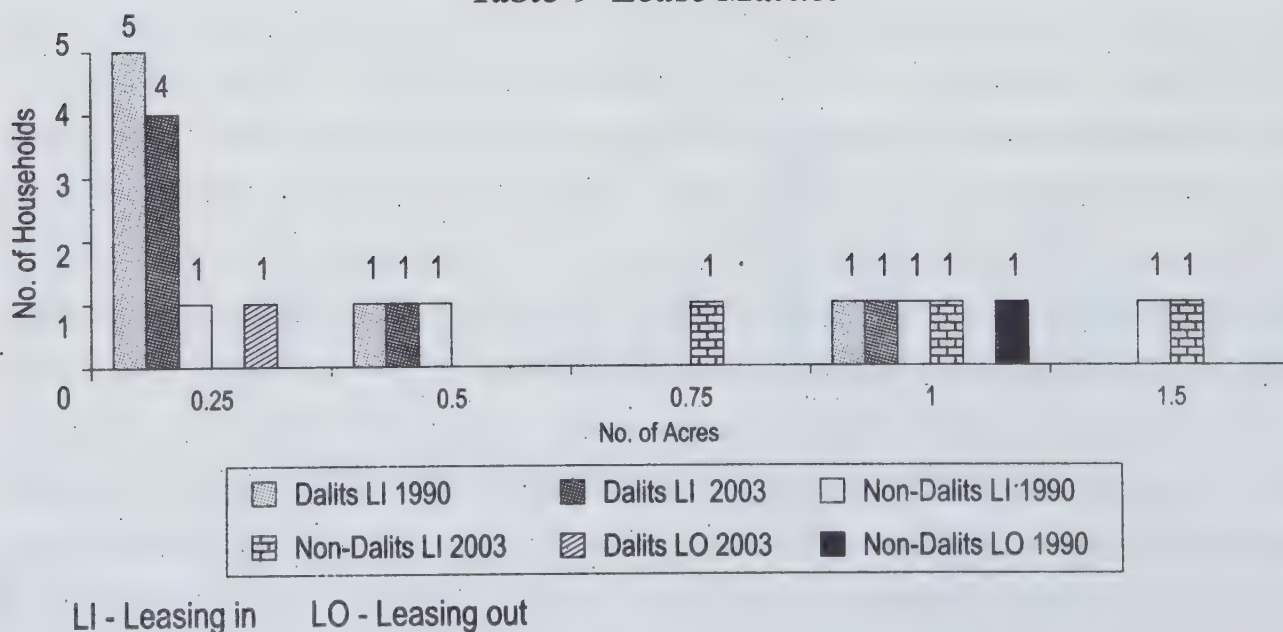
Land Markets

Except for one household, all Dalit households in Tavalam are agricultural labourers who also sharecrop land, while 20 of the 26 Dalit families in Eguvapalli village and 10 of the 21 Dalit families from Boggitivaripalli village lease in land on a share-cropping basis. As far as non-Dalits in the villages are concerned, five backward caste families in Sriramapuram village lease in land, while one quarter of all Tavalam backward caste families lease in land. Around 15 Bommanacheruvu backward caste families lease in land, as do 10 forward caste families in the village. And 10 Boggitivaripalli backward caste families are leasing in land, while no Adivasis from DD Thanda participate in the land lease market. Mainly forward castes lease out land, as with around three forward caste households in Tavalam village leasing out land while in Bommanacheruvu around 10 forward castes are lessors.

Dominant caste control of the land market was visible in both land purchase - sales and leasing-in - leasing-out, this social group operating as key players in all land transactions.

- In all cases of households leasing in land both in 1990 and in 2003, the lessors were inevitably dominant caste landowners, particularly the forward castes. Only in the case of one Dalit household from Boggitivaripalli has a Dalit leased out $\frac{1}{4}$ acre of wetland to another Dalit on a sharecropping basis in 2003. Otherwise, one backward caste family from Sriramapuram had leased out both one acre of wetland and one acre of dryland to another backward caste in 1990. Greater land ownership among non-Dalit households means that leasing-in land is subsequently less for these households. While four households surveyed leased in land in 1990, by 2003 only three were leasing in land.
- * Seven Dalits (35 percent) leased in land in 1990 from forward caste landowners, in all but one case the land being wetland on which to cultivate rice paddy for self-consumption. By 2003, this had changed slightly, with three households now cultivating groundnut for sale while the remaining three households lease in wetland for rice paddy cultivation (*Table 9*). This shift reflects the lessening water sources available for paddy cultivation during the drought period, while one household has subsequently bought land and hence no longer leases in land.

Table-9 Lease Market



Irrigation Sources

With the majority of land under cultivation being dryland, not only land ownership and participation in the land lease market, but also access to assured irrigation sources determines a household's ability to cultivate land for either self-sustenance or for the market. Here again, as mentioned above, lack of financial capital to invest in wells and motor pumps to extract groundwater places Dalits at a disadvantage vis-à-vis non-Dalits.

- In 1990 around 60 percent of Dalit households owning or leasing in land were primarily dependent on rainfall for irrigation. A further 33 percent had land in the village tank beds and one household owned a borewell. By comparison, only 37 percent of non-Dalit households owning or leasing in land relied upon the rains for cultivation. Around 44 percent owned land in the village tank beds and 19 percent had borewells or open wells.
- By 2003 both Dalits and non-Dalits have slightly shifted away from dependence on rainfall for irrigation, though 47 percent of Dalits still rely primarily upon rainfall to irrigate their crops. Only one more household has wetland in the tank bed, while one has invested in a borewell. As far as non-Dalits are concerned, not only has there been a shift in terms of all households now owning or leasing in land, but now only 25 percent primarily rely upon rainfall to irrigate their lands. Land in the tank bed gives more assured irrigation for 40 percent of households, while 35 percent rely upon borewells or open wells (*Table 10*).

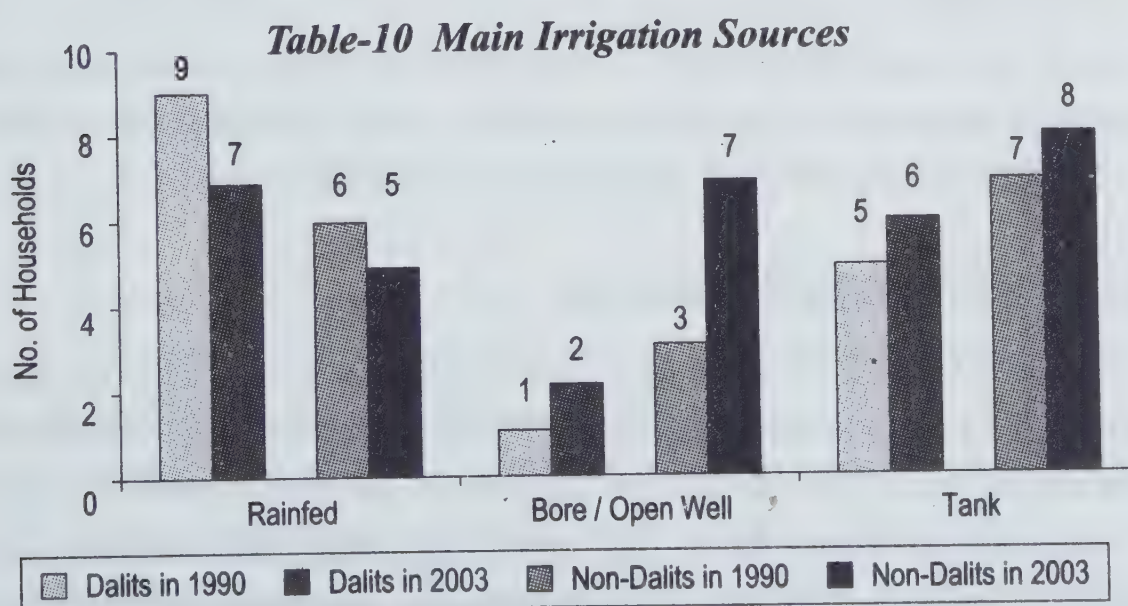


Table 11 Land Coverage under Irrigation Sources

Acres	Dalits in 1990	Dalits in 2003	Non-Dalits in 1990	Non-Dalits in 2003
Acreage under assured irrigation (wells, tanks, riverbed)	9.1	9.1	10.6	19.1
% Assured irrigated land to total irrigated land	37.4%	44.6%	36.4%	50.1%
Acreage under rainfall irrigation	15.3	11.3	18.5	19
% Rainfall irrigated land to total irrigated land	62.6%	55.4%	63.6%	49.9%
Total land under irrigation	24.4	20.4	29.1	38.1

- In terms of total lands under irrigation across Dalit and non-Dalit households, while in 1990 rainfall was the primary source of irrigation for 62.6 percent of Dalits' lands as compared to 63.6 percent of non-Dalits' lands, non-Dalits still had more land under irrigation. By 2003, however, non-Dalits had both extended their lands under irrigation as well as lessened their dependency on rainfall for irrigation. In the case of Dalits, less land is now under irrigation while dependency on rainfall has also lessened. What this means is that the drought has taken its toll more on Dalit households, with less land brought under cultivation due to lesser access to irrigation sources (*Table 11*). This also indicates a widening gap between non-Dalits with their greater extents of land with more assured irrigation sources, and Dalits with smaller land holdings and lesser access to assured irrigation.

Common Property Resources

As limited land resources are available to Dalits, access to common property resources provides Dalits with supplementary sources of income in terms of forest produce gathering as well as sources of firewood and grazing land for cattle. However, Boggitivaripalli Dalits continue to be denied access to revenue wastelands by some dominant castes of the village, and Eguvapalli Dalits are even sometimes beaten up by the forward castes of

the village if they try to access the wastelands to graze their cattle. Moreover, declining forest cover means that Dalit women, who primarily rely upon firewood for cooking fuel, have to travel greater distances and spend greater amounts of time collecting firewood. This has resulted in some women stopping firewood collection for sale in Tavalam watershed area.

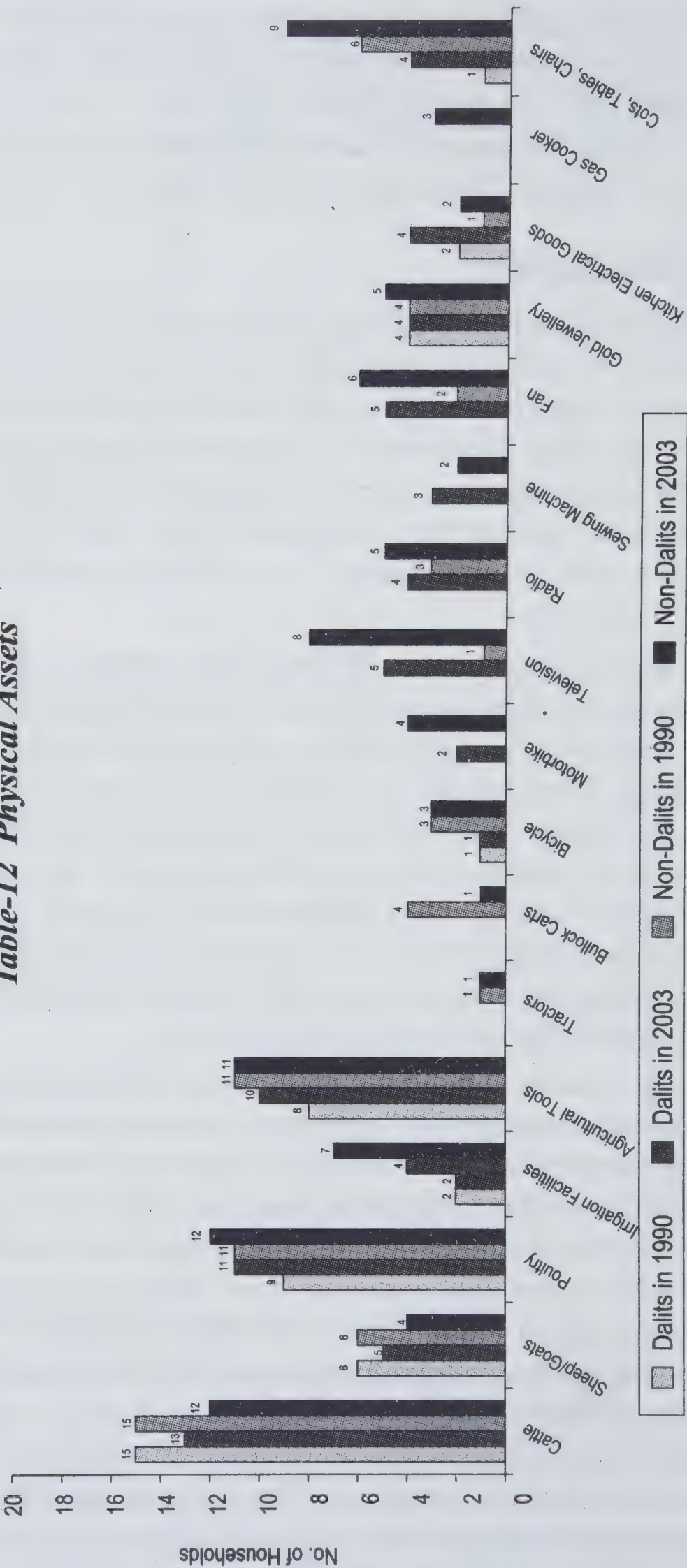
III. Physical Capital

Particularly in a drought prone region, the possession of livestock assets and physical goods are a key income source that can tide over a family when incomes drop to levels that negatively affect livelihood security. However, the greater vulnerability of Dalit households in this aspect was observed across the assets surveyed, with non-Dalits having both a greater asset base in 1990 and having by and large maintained or increased their asset base by 2003 (*Table 12*).

By far the most worrying factor for Dalits interviewed from Tavalam watershed villages in particular was their declining numbers of cattle and goats due to the drought, with no government drought initiatives outside of the 'Food for Work' programme having any significant impact on this trend. An emerging lacuna in watershed development, therefore, is the absence of any initiatives built into watershed development to protect grazing lands and fodder grounds. This would ensure that livestock assets are also targeted for protection and livestock rearing and herding is promoted as an alternative source of income for poor families such as many Dalits.

- The only common trend for both Dalits and non-Dalits was a decline in possession of livestock, attributed by the Dalits to the drought and consequent reduction in grazing lands and fodder for livestock such as cattle, sheep and goats. Moreover, Eguvapalli Dalits mentioned that without consulting them the natural pits from which their cattle used to drink water had been filled to make watershed bunds. The consequent scarcity of water for their cattle had become another factor prompting several families to sell off their cattle. Non-Dalits own greater numbers of livestock and a few have sold off their livestock due to being unable to manage such numbers. This factor, along with increasing mechanisation of agricultural operations, has also led to a decline in the number of bullock carts owned by non-Dalits.

Table-12 Physical Assets



- What is significant is that only non-Dalit households have increased their ownership of irrigation facilities such as borewells and open wells between 1990 and 2003, indicating their possession of sufficient capital to improve their income generating capacities. Other physical assets, especially modes of transportation and household goods, are owned to lesser degrees across all castes. Only televisions and cots, tables and chairs are now owned by over a quarter of non-Dalit households.
- Meanwhile, for Dalit households the trend is a small increase in ownership of agricultural tools and poultry, while only in the past decade has ownership of motorbikes, televisions, radios, sewing machines and fans emerged among less than a quarter of the Dalit families.

IV. Economic Capital: Savings and Loans

Mitigation of stress to agricultural livelihoods brought about by drought is possible when a household possesses sufficient economic capital to tide over the family until the drought breaks. However, Dalits are more vulnerable in drought situations due to their concentration in lower waged labour works that precludes many from amassing financial capital in the form of savings. A positive development in this regard has been the proliferation of savings and credit groups across the villages, monthly savings ranging between Rs.30 to Rs.100.

- Of the 20 Dalit households surveyed, 17 households (85 percent - three men and 16 women) are involved in SHG groups, the majority of savings going into consumption expenses, cultivation inputs and health in that order. Non-Dalit women from 13 households (65 percent) are also involved in such groups, savings being utilised to meet family or cultivation expenses.

Credit Market

However, matching the growth of savings groups is a growth in loans over the past decade. Dalits of Eguvapalli cited stagnating wage rates in agricultural labour while costs of living have risen over the past decade as reasons for their reliance on loans easily obtained from dominant caste landowners. Dynamics of the credit market in the villages operate so that the dominant castes control the informal credit market from which the majority of Dalits draw loans. In

particular, the dominant caste landowners who also control the land markets exert control over the Dalits by catering to both the credit and labour needs of Dalits, interlinking these markets to ensure economic dependence of the Dalits on them. For Eguvapalli Dalits, this dependency on the landowners for both labour and credit has also meant that they have not been able to oppose watershed developments undertaken by the landowners, such as filling in their natural water pits previously used by cattle.

Table 13 Informal Sources of Household Credit in 2003

Amount in Rupees	Moneylender		Dominant Caste Landowner		Relatives	Non-Dalit Shop Owner
	Dalit	Non-Dalit	Dalit	Non-Dalit	Non-Dalit	Non-Dalit
1,000-5,000	1	3	6	4	2	--
5,001-10,000	--	1	4	--	2	--
10,001-15,000	1	1	2	--	--	--
15,001-20,000	1	1	1	1	1	1
20,001-30,000	1	--	--	1	--	--
30,001-50,000	--	1	--	--	--	--
125,000	--	1	--	--	--	--
Total	4	8	13	6	5	1

Table 14 Formal Sources of Household Credit in 2003

Amount in Rupees	Commercial Bank		Cooperative Society	
	Dalit	Non-Dalit	Dalit	Non-Dalit
1,000-5,000	2	--	2	1
5,001-10,000	--	2	1	--
10,001-20,000	--	--	--	--
20,001-30,000	--	2	--	--
30,001-50,000	--	1	--	--
Total	2	5	3	1

- Of the seven Dalit and seven non-Dalit households who could recall their average loan sizes in 1990, loans were spread across a range from Rs.1,000 to Rs.50,000. However, by 2003, loan amounts had increased for both Dalit and non-Dalit households, 16 Dalit families now accessing 21 loans ranging between Rs.1,000 to Rs.50,000, the majority concentrated in loans ranging between Rs.5,000 to Rs.15,000. Of the 16 non-Dalit families now accessing 26 loans ranging between Rs.1,000 to Rs.125,000, six had taken out loans for between Rs.1,000 to Rs.5,000, while four held loans between Rs.10,000 and Rs.50,000 and four had loans exceeding Rs.50,000.
- While the landowners are the predominant source of credit, currently loaning out money to 13 Dalit households, the other main source of credit are forward caste moneylenders in the villages for four households. Of those surveyed, most were unable to say what their current loan amounts are when including interest on their loans, knowing only the original loan size and high compounded interest rates that ranges between 24 to 36 percent per annum. Only in the case of five Dalit households have formal sources of credit been approached for loans. Dalit households have taken out small bank loans of up to Rs.5,000 with an annual interest rate of 18 percent, while three households hold loans from cooperative credit societies that charge 24 percent annual interest (*Tables 13 & 14*).
- Non-Dalits, by comparison, had a wider range of credit providers. While eight households rely primarily on forward caste moneylenders for loans ranging from Rs.1,000 to Rs.125,000, dominant caste landowners were approached by six families for loans ranging up to Rs.30,000. Other informal sources include relatives for six families and a non-Dalit shop owner for one family. More non-Dalits accessed formal sources of credit than Dalits, five households taking out bank loans of between Rs.10,000 to Rs.36,000, and one household taking out a Rs.4,000 loan from a cooperative credit society.
- While 33 percent of Dalits' current loans are for agricultural purposes, household expenses, health and marriages account for 19 percent each of current loans. In the case of non-Dalits, the majority of loans (62 percent) were taken for agricultural

purposes, with 19 percent of loans obtained to meet household expenses. However, the main repayment method across castes is from daily wages, with uncertainties in agriculture leading 25 percent with loans to state that they do not know how they will be able to repay the loans (*Table 15*).

Table 15 Loan Purpose and Repayment Method

Loan Purpose:	Dalits	Non-Dalits
Income generation (cultivation)	7	16
Household expenses	4	5
Health	4	--
Marriage	4	1
Land purchase	--	2
House construction/renovation	3	--
Court case	--	2
Repayment Method:	Dalits	Non-Dalits
Unable to say	5	7
Income from crops	2	4
Daily wages	15	14
Another loan	—	1
Total no. of Loans	22	26

V. Human Capital

Health

Dalits' lower health levels in general as compared to most non-Dalits correspond to their lower living standards. The major difference from 1990 to 2003 in terms of healthcare is the increasing number of days in a year that Dalits in the villages are losing due to ill-health. Moreover, where the majority of Dalits access government healthcare services often offering low quality healthcare, the past decade has seen a shift to more costly private medical service providers.

- In 1990 there were 17 Dalit households (85 percent) accessing government medical services – hospitals, primary healthcare centres and sub-centres, while only one household accessed a private medical centre and two visited witchdoctors. However, by 2003 there has been a shift to private healthcare, despite the

increasing costs, with six households (30 percent) accessing private medical facilities and the remaining 14 households (70 percent) still relying upon government facilities.

- In the case of non-Dalits, both in 1990 and in 2003 the majority of households (14 households or 70 percent) rely upon private medical facilities to meet their healthcare needs. Only five households (25 percent) now rely upon government healthcare, while one Adivasi household continues to visit a witchdoctor.
- While the majority of Dalits in 1990 lost an average of one to two months' worth of work due to ill-health, by 2003 most households averaged two months per year taken off work due to sickness. For 14 households (70 percent) this translates into an increase of up to one month in the number of days lost due to ill-health. By comparison, non-Dalits lost an average of two months per year due to ill-health both in 1990 and at present, with the only nine households (45 percent) witnessing increased days now lost due to ill-health (*Table 16*).

Table-16 Annual Days lost due to Ill-Health

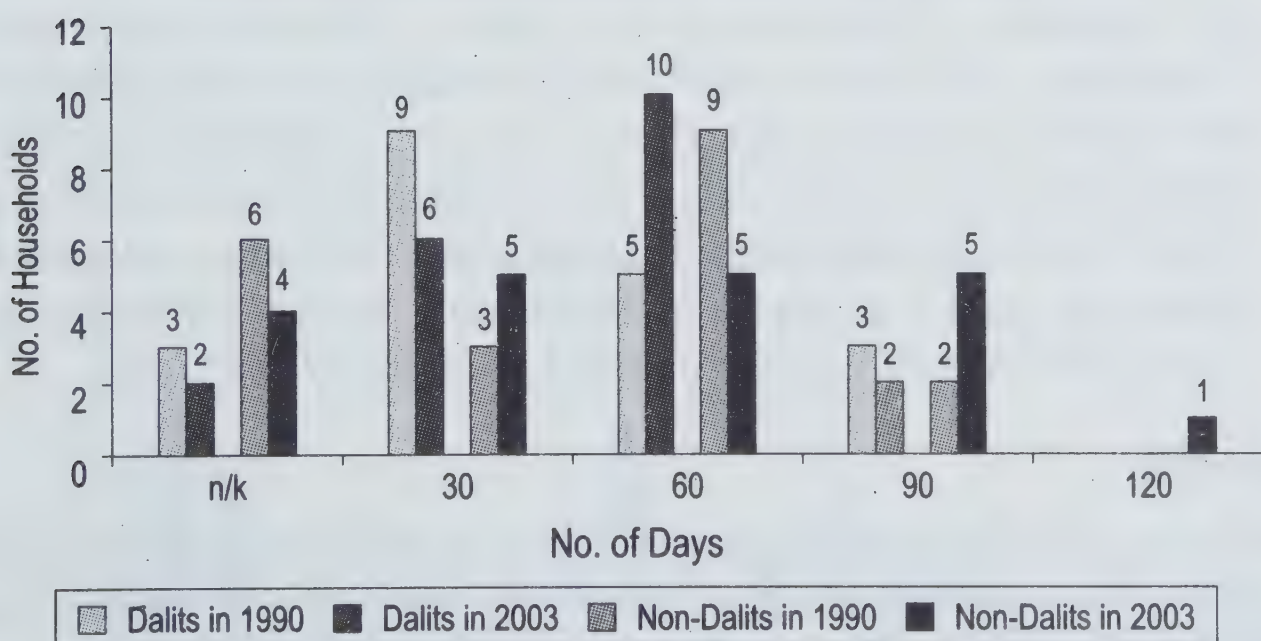
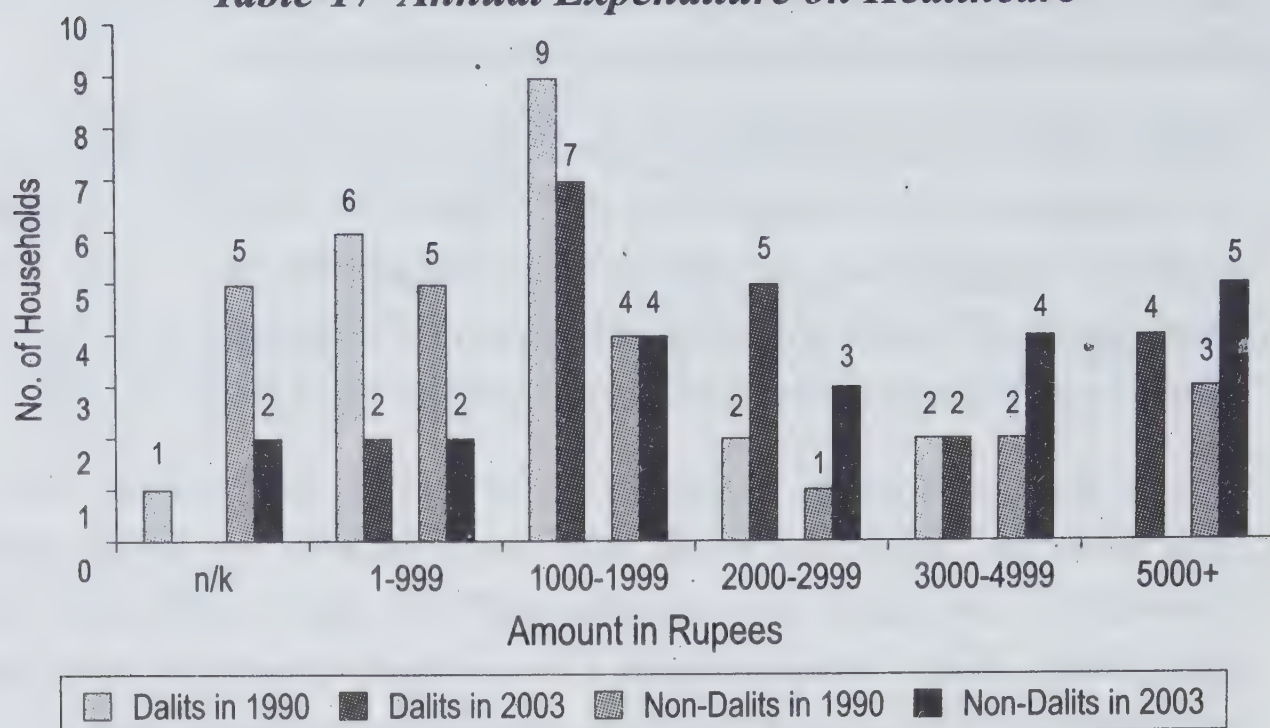


Table-17 Annual Expenditure on Healthcare



In a scenario where the majority of Dalits are waged agricultural labourers earning below the minimum daily wage and possessing little financial capital, their capacity to pay for their increasing days of ill-health is low. Hence, the likelihood of Dalits requiring loans to meet healthcare needs rises.

- Currently, 19 percent of Dalit households surveyed have acquired loans to meet healthcare needs, while no non-Dalit has had to do the same. As compared to 1990, where Dalits spent an average of up to Rs.2,000 per year to meet medical expenses, by 2003 the majority of Dalits spend Rs.1,000 to Rs.3,000 per year on healthcare, with four households (25 percent) incurring expenses of over Rs.5,000 per year. In the case of non-Dalit households, while many have doubled their annual expenditure on healthcare, when viewed in the light of better health conditions and greater financial capital to spend on healthcare, health assets among non-Dalits remain higher than that of Dalits (*Table 17*).

Education

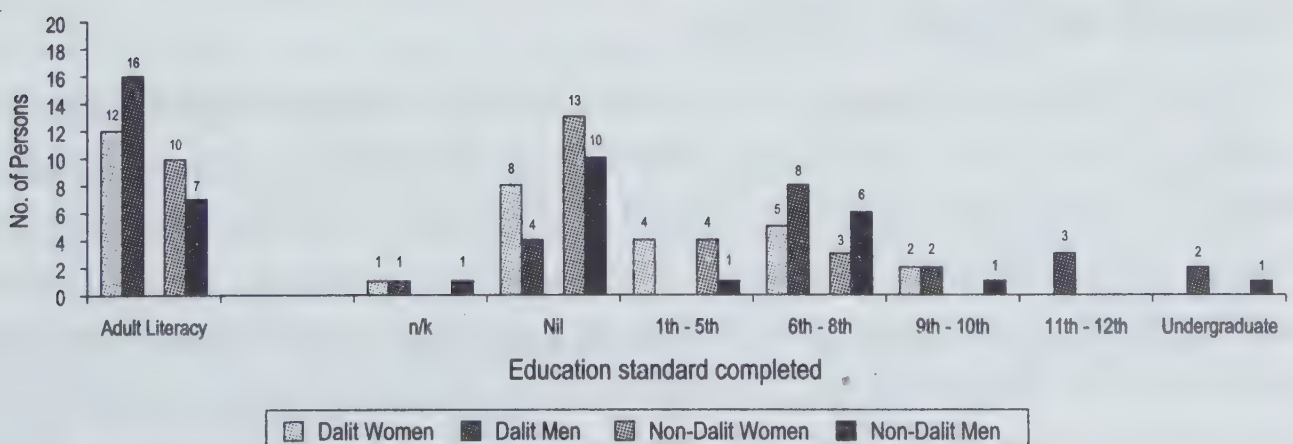
Development of livelihoods in dryland areas requires a diversity of approaches and programmes. One may certainly be watershed development, which aims to help transform agriculture into a more viable, secure livelihood option. But with lesser employment opportunities available in dryland regions recognised by the State Government, coupled with Dalits' lesser access to resources as

compared to the general population, alternatives to land-based livelihood activities are also necessary to boost Dalit development. With the increasing emphasis on a knowledge-based society being promoted by the State Government, education becomes one important avenue to livelihood diversification opportunities and skills for Dalits. However, it must be backed up with the creation of non-agriculture employment opportunities that target this marginalised community to be an effective tool in transforming rural caste relations.

In the field of education, the main Dalit adults of the households surveyed emerged as more literate than their non-Dalit counterparts, reinforcing the position that education alone does not necessarily bring about changes to livelihood positions. Where Dalits lack key natural and financial resources, coupled with few employment opportunities outside of agriculture in the area, their ability to shift into new occupations may still be curtailed.

- Of the 20 Dalit female heads of households, 12 were literate as compared to 16 Dalit male household heads. The majority of literates had studied up till middle primary school, while only five Dalit men had completed their secondary schooling and two an undergraduate degree. In the case of non-Dalits, unusually 10 female heads of households were literate as compared to only seven non-Dalit male heads of households. All Adivasi households were illiterate, while the majority of non-Dalit literates had studied up till middle primary school (*Table 18*).

Table-18 Adult Literacy & Education Levels



Tavalam Dalit boys are currently studying up to 10th standard, with a few going up to 11th and 12th standards. By comparison, half of Dalit girls drop out of school after 7th standard, and the remaining half after 10th standard. Eguvapalli Dalits are increasingly keeping their children in education up to at least 7th standard, recognising the need to equip their children with other skills in an area where there are so few employment opportunities available. Moreover, given their history of being cheated of land by the dominant caste Reddys through exploiting their illiteracy, these Dalits are determined to protect their children from being likewise cheated. In the case of Boggitivaripalli Dalits, their children are increasingly attending school, parents citing the increasing employment opportunities and land brought into production under the Gerigelavanka watershed as some of the reasons for this change.

The difference emerges when looking at retention of Dalit children in education, the majority of whom attend government schools or Scheduled Caste residential schools. While education levels in the villages are slowly improving, emphasis on retaining Dalit children in education to higher levels is better assured only when their parents have securer sources of income and hence lesser need to place their children in the workforce at early ages.

- Five families (25 percent) reported that five Dalit boys under 14 years of age had dropped out of school to work, three for reasons of poverty, one due to poor quality of teaching in the school and one after having failed his exams. In the case of non-Dalits, only one Adivasi boy had dropped out of school to work after having failed his exams, while one backward caste boy had discontinued his schooling due to poverty and gone into work.

Government Skills Trainings

Skills training in alternative forms of employment or entrepreneurial skills, if coupled with education and enhanced non-agriculture employment opportunities, could enable those Dalits without land, especially vulnerable single and landless women, to shift from agricultural labour into more sustaining livelihood activities. However, the major government skills programmes currently in place are limited to savings and credit schemes such as DWCRA and Velugu. While savings and credit groups may perform a vital role in bringing credit within the reach of the poor, without support programmes that enhance

their skills and options to utilise credit to branch into other livelihood activities, the government falls short of a long-term solution to poverty levels in dryland areas.

- Nine Dalit women and two Dalit men surveyed are part of DWCRA and Velugu. Otherwise, only one Dalit man has undergone IRDP training and one has been part of the CMEY programme. Similarly, four non-Dalit women are involved in DWCRA and Velugu savings groups in the villages and one man in a Velugu savings groups. Apart from these programmes, two dominant caste women are part of the Antyodaya programme.

Expected Impact of Watershed Development

Taking into account the vast inequalities in both land ownership and quality of land ownership in terms of access to irrigation sources, what impact can watershed development have on improving access to water for irrigation and increasing land productivity? And how much can its goal of equitable distribution of benefits be fulfilled?

Tavalam Watershed

If one goes by the report of the Watershed Committee chairperson's husband, Srinivas, Tavalam watershed has already shown positive impacts. Over 100 acres of wastelands have allegedly been brought under cultivation by both backward castes and Dalits. The water table in the area has supposedly increased with greater land productivity, though it is hard to measure the change as yet due to the severe drought for the past two years. While he concedes that there have been no new work opportunities arising after the completion of the watershed, with most watersheds said to show impacts only around five years after their completion it is too early to speak as to possible economic growth. However, he is adamant that all communities were equally targeted under the watershed, putting dissatisfaction from some people down to not everyone getting every benefit under the watershed though all apparently got some benefit. One positive impact is that apparently while all villages around the watershed have been experiencing severe drinking water problems, while the watershed was going on Tavalam watershed villages had no such problems.

What is identified is that due to a shortage of funds, a number of ponds have not yet been desilted and some building of bunds and

gully plugs was discontinued for the same reason. Srinivas estimates that it would require a further Rs.500,000 to complete all the structures and works in the watershed. However, of what work was done under DPAP and then the local project implementing NGO, all the structures are still intact with only the bunds having naturally decreased in size.

Unfortunately, Srinivas' story stands in stark contrast to stories expressed by Dalits in Eguvapalli and Tavalam villages. The gully plugs and bunds put in place on the two Tavalam Dalits' lands were washed out in a hailstorm in 2001. Before that, only a little more water was seeping into the village tank through all the watershed structures, but now there is no measurable difference to be seen. Moreover, water would appear in the gully plugs for only a few days after the rains, but with most gully plugs placed away from agricultural lands, this water has only benefited the cattle. Hence, Tavalam Dalits are just waiting for the rains to come, so that they can return to some measure of livelihood security cultivating their two crops of paddy and groundnut. Long term sustainable development of their land is not something that they can think about yet.

Eguvapalli Dalits point out that the placement of the check dams, gully plugs and contour bunds on the forward caste Reddys' lands in no way could benefit the Dalits in the village, even if there were to be rains. The three feeder channels, for example, all link to a reservoir which belongs to the forward castes of the village, and hence could never yield irrigation water for the Dalits to access. This is aside from the issue of the long term viability of the watershed structures. According to Madusudan Reddy of the village, the check dams have already started to leak and the gully plugs on his land have broken before, flooding his land.

Dalits pointed out that the lack of consultation with them was another failure of the project. By denying their right to participation in watershed development, the completed watershed will potentially only benefit those dominant castes in particular who already have greater access to natural capital and more sustainable livelihoods. For Ramanna of the village, he sees two priorities for the Dalits: one is for the rains to come; and two is for them to have trees, so that if no rains come at least the tree produce can help sustain the Dalits during the drought period. Notably, all the trees planted in the village as part of watershed activities were either on the forward castes'

lands or along the roadsides. No trees were planted in the Dalit colony of the village or in any Dalits' fields.

What has occurred is that new borewells have sprung up under the watershed, the dominant castes being the most financially placed to invest in such equipment. However, Mallamma from Sriramapuram states that none of the four wells that were sunk in her village have yielded more water for either drinking or irrigation after a month. Therefore, they too await the end of the drought to gain the benefits of the watershed, unable to say as yet whether their borewells will then be filled. Only one positive point for the backward castes of the village was that the black jamoon trees planted in their village had yielded fruit last year, providing another source of income.

Again, the emphasis on paddy cultivation means that if the rains were to come, the backward castes would only cultivate water intensive rice paddy, thereby only exploiting their new access to irrigation water through borewells to improve their livelihoods. The cost, in terms of sustainable development of their lands by growing crops more suited to dryland conditions and replenishing water table levels, would appear to defeat the very purpose of watershed development itself in these circumstances.

Gerigelavanka Watershed

Villagers in Gerigelavanka watershed have a very different story to tell. They have measured that 96 acres of fallow land have now been brought under cultivation as a result of the watershed development, mainly due to joint stone clearance works. Meanwhile, 376 acres of rocky or less fertile soils have been brought up to normal cultivation levels, mainly due to an emphasis during the watershed development on the use of organic manures. Prior to the drought, rainwater collected through the percolation tanks and six rejuvenated wells allowed many villagers to irrigate about one acre of land. The per acre yield of groundnut increased from five to six bags per acre to around 10 bags prior to the drought, providing a higher income of Rs.4,500 per acre, rising to Rs.5,500 per acre when one includes intercropping yields.

The emphasis being placed on rain-fed crop cultivation ensures that marginal and small cultivators maximise the benefits of cultivation of crops most suited to their environment. Many villagers could see

for themselves the benefits of greater irrigation water as compared to the surrounding villages, being able to cultivate their crops for a longer period into the drought than most other villages. Moreover, developing wastelands during the watershed has increased to some extent the availability of fodder and firewood at closer distances to the villages, thereby decreasing women's work in collecting firewood for cooking needs in particular.

By lowering costs through greater community participation and contribution to watershed works, the breadth of watershed activities was greater. A total of 25 wells were desilted to increase water levels in the wells and low cost rainwater harvesting structures and rainwater percolation tanks were constructed. Around 35 single and landless women have utilised the development funds to set up income generating activities, as previously mentioned, while the 80 percent survival rate of trees is providing another steady source of income for most families in the watershed.

This is not to say that drought has not had an impact on the Gerigelavanka watershed villages. Many in the study villages point out that ground water levels have increased, with a noticeable difference between access to drinking water in the watershed villages as compared to villages outside the watershed. While most surrounding villages have water only in borewells reaching as far down as 200 to 250m, prior to the drought at the end of the watershed project two inches of water was being found at depths of 100m to 150m in Gerigelavanka watershed villages. However, this difference is slowly decreasing as the drought continues. Still, people predict that they have at least another year or two to go before their water levels drop to that of neighbouring villages.

The emphasis on alternative livelihood activities and plantation of trees has meant that whereas before the Dalits had to primarily rely upon the dominant forward castes for work, now they have the potential to cultivate their own lands using organic farming methods that lower input costs. The result is that the caste dependency of Dalits on the dominant castes has decreased a little. Moreover, the Dalits observe that while the rest of the villagers in the area are migrating with greater frequency due to the drought, in their case migration has lessened where alternative sources of income have been taken up.

Social Changes in Caste Relations

Watershed development in a socially unequal society with highly inequitable distribution of natural resources along caste and gender lines has two alternative paths. It will either succeed in merely reinforcing those unequal caste-gender relations by distributing benefits to those who already possess greater access to land and water resources. The alternative is that it can be one intervention to try to enhance the livelihood capital of poor and marginalised communities such as Dalits, by redressing their low socio-political asset and resource base in order to develop their livelihoods.

Tavalam Watershed

Little has changed in terms of social –caste– relations in the Tavalam watershed villages. The only development claimed by many villagers is that the backward castes and forward castes benefited the most under the watershed, due to their undertaking many of the watershed works and positioning watershed structures to benefit their communities. What this only serves to do is widen the development gap between Dalits and non-Dalits, reinforcing Dalits' dependency on the dominant castes for employment. Should the watershed increase the cultivation potential for the landed dominant castes, land prices will most likely increase in the area. Again, faced with little access to the land market, and with the rural credit market controlled by the dominant castes, the interlinkages between these markets and the labour market will only serve to tighten control on the majority Dalit agricultural labourers. This will in effect fix them into the same, low paid, insecure livelihood occupation.

Gerigelavanka Watershed

Gerigelavanka watershed bears a different history, with the priority policy accorded to the lands of marginal and small farmers, mainly Dalits, Adivasi and backward castes, for inclusion and development in the watershed having wider ramifications for caste relations inside the villages. The development of Dalits' lands in particular and the diversification of many Dalits into watershed activities to develop their lands and alternative income generation activities has commenced a process of increasing independence for the Dalits in villages like Boggitivaripalli. In other words, the chain of agricultural labour demand and supply, which had previously been controlled by

the dominant castes, is slowly being broken as more Dalits turn to alternative agricultural and non-agricultural livelihood activities.

Whereas prior to the watershed many Dalits would have to wait for a whole day in Madanapalli for wages falling short of the minimum wage, some have now stopped working in the dominant castes' fields. Many would now rather go into Madanapalli town to find work than stay in the dominant castes' fields, with some working for backward caste landowners with whom they have good relations.

Moreover, in terms of the situation of agricultural labourers, prior to the watershed competition for labour between the backward castes and the Dalits in effect served to keep the communities divided and hence more under the control of the forward caste landowners. But now, by placing an equal emphasis on Dalits, Adivasis and backward castes in this watershed, without promoting competition between these social groups, new alliances are forming and there is greater social interaction between Dalits and backward castes in particular, based on their similar socio-economic positioning.

At the same time, there is still a long way to go before caste discrimination against Dalits is eradicated to pave the way for a more equitable distribution of resources and opportunities. The huge amount of resentment and opposition faced during the watershed development from both the dominant forward and backward castes in some villages still remains. Incidences of attacks and threats made against Dalits, particularly Watershed Committee chairperson Kalavathamma, during the development of the watershed may have stopped. But then the drought is slowing many signs of socio-economic progress within the Dalit community.

Once the drought lifts and the potential of the watershed emerges in terms of Dalits increasingly asserting their economic independence, it is very likely that opposition from the dominant castes will again increase. What will be required will be a series of long-term educatory and support programmes to make Dalits aware of their rights and others of the need to respect and promote Dalits' right to livelihood. Already the local project implementing NGO has made some inroads in terms of rights awareness programmes conducted among the villagers, which may need to extend into the future to counter the tenacious grip of caste in people's minds. Only then can watershed development become a path to sustainable development for Dalits.

Overview Analysis: Human Rights Perspective

Three clear areas in which to distinguish Gerigelavanka watershed from Tavalam watershed are in terms of participation, the creation of access to opportunities and potential benefits that have arisen for different caste-class communities from watershed development. Lakhs of rupees are being poured into the state both from within the country and abroad for watershed development. However, insufficient consideration appears to be given in government-funded watersheds to the socio-political and economic context at the local village level, which has ramifications in the afore-mentioned three areas and hence the watershed development process itself.

The Andhra Pradesh Government promotes watershed development as the primary solution to transform agriculture in the majority dryland regions of the state into an economically productive activity which simultaneously alleviates poverty. However, at the project level translating this goal into a reality of vastly unequal levels of ownership and access to key land and water resources based on caste-gender factors requires a sufficient understanding of how these factors influence who can access benefits under watershed development. Already studies have emerged in the early 1990s to show how the poor in general have been excluded from watershed benefits of rising water tables.⁶ More recently in 2002, a field study was made on the frequent exclusion of the poor in watershed programmes in Andhra Pradesh.⁷ However, there is a need to disaggregate the broad category of the poor to understand the different factors which influence this exclusion process. One key factor that underpins all socio-political and economic relations in the villages is caste.

While focusing on only the economic dimensions of development and not the socio-political (caste-gender-class) dimensions, the government reduces the potential of watershed development to merely reinforcing existing unequal livelihood development levels of different communities along caste lines. This brings into question the very inclusive and integral character of the development process itself. Moreover, if the aimed benefits of watershed development are realised, a caste blind policy will potentially result in only widening the gap between Dalits' and non-Dalits' livelihood levels.

Comparative Overview of Watershed Development in Tavalam and Gerigelavanka Watersheds

Area	Tavalam Watershed	Gerigelavanka Watershed
Right to consultation and information	<ul style="list-style-type: none"> - Dalits not informed of meetings with DPAP officials about watershed and hence have little conceptual understanding about watershed development and its potential benefits - top-driven approach adopted by DPAP officials and then local implementing NGO; hence, decisions on watershed works more often dictated than discussed 	<ul style="list-style-type: none"> - regular information meetings held in all watershed villages with all village communities on watershed concept and how benefits could be incorporated into dryland agriculture - each village allowed to take its own time to come to agreement on inclusion in watershed development
Choice and inclusion of lands in watershed and placement of watershed structures	<ul style="list-style-type: none"> - DPAP officials chose lands for inclusion in the watershed - Dalits not at all consulted as to inclusion of their lands in the watershed, as a result of which only 4 percent of their lands fall under the watershed - dominant castes consulted as to placement of watershed structures; Dalits were just told to build field bunds without being told how they would benefit their lands - tree plantation was in dominant castes' fields and along roadsides, with no trees being planted in Dalits' fields 	<ul style="list-style-type: none"> - people themselves decided what lands to be included and where watershed structures would be placed after resource mapping exercise, in consultation with project implementing NGO and engineers - priority policy to small and marginal farmers ensured that Dalits, Adivasis and backward caste small cultivators were included in watershed, with 16 percent of total lands in watersheds being Dalit lands - all villagers in the watershed received trees for their lands
Inclusion in watershed institutions	<ul style="list-style-type: none"> - village committees set up as well as a Watershed Committee, both dominated by the dominant castes - the sole Dalit woman Watershed Committee member was not told of membership until local project implementing NGO took over - Watershed Committee chairperson was chosen without knowledge of many Committee members, and operated as dummy chairperson with her husband making all the decisions 	<ul style="list-style-type: none"> - village committees formed of all persons with land in the watershed, who then nominated any person from their village community to form the Watershed Committee, based on their active participation in village affairs and experience in representing their community - equal gender representation was ensured in the Committee - Dalit woman Watershed Committee chairperson democratically elected
Financial transparency	<ul style="list-style-type: none"> - 5 percent farmer contribution asked for all watershed works on private lands, this being put into a revolving fund for future development works; notably, not even the Dalit Watershed Committee member knows about the fund - Dalit Committee member and other members were often just told to sign papers stating that watershed works had been carried out and to sanction money for further works 	<ul style="list-style-type: none"> - 50 percent farmer contribution asked for all watershed works done on private lands, which, along with a membership fee, went into a revolving fund for future watershed works as well as loan grants to single women and landless women for income generation activities - all watershed work budgets were shared with village committee and Watershed Committee members and finalised together

Capacitation and training	<ul style="list-style-type: none"> - outside of one Dalit man who visited a Kuppam watershed primarily to see the tree plantation, no other Dalit was given exposure to a watershed to see its benefits - mostly dominant castes benefited from capacitation on watershed development 	<ul style="list-style-type: none"> - exposure trips were organised for all villagers contributing lands to the watershed, with regular camps held to increase people's understanding of watershed development and management - emphasis on equal gender representation in training and capacitation
New work opportunities in watershed	<ul style="list-style-type: none"> - most larger watershed works were done by either dominant caste landowners or by backward caste Vaddera contract labourers brought in from outside the villages - of the approximately 500 people who got about a year's worth of work in the watershed, the overwhelming majority were dominant castes - the two Dalits from Tavalam village with lands in the watershed were told not to do any work in their lands as they knew nothing about watersheds; hence others worked in their lands to construct watershed structures - only two Dalits from Tavalam village got employment in the watershed, and that too only tree planting for one Dalit for merely Rs. 400 per month; moreover, six months' worth of work was not paid to him due to alleged paucity of funds - Eguvapalli Dalits were only given work when the dominant caste Reddys of the village fought over one watershed work, but were paid much less than the alleged unit rate of pay for watershed works and less than the minimum wage 	<ul style="list-style-type: none"> - villagers with land in the watershed were teamed up with landless villagers to undertake watershed works, all of which were done locally without outside labour being brought in - priority employment policy given to Dalits and Adivasis in the initial stages of watershed, being the poorest communities in the villages with the least land holdings - every man and woman from particularly landless Dalit families received approximately two months' worth of work per year in the watershed, breaking to some extent their dependence on the dominant caste landowners for agricultural labour work - loans from the watershed fund were given to 35 single and landless women to undertake independent income generation activities such as livestock rearing or petty business - work in the plant nurseries provided employment opportunities for Adivasi women, which still continues after the completion of the watershed
Expected/realised impacts of watershed development	<ul style="list-style-type: none"> - all main watershed structures being placed to benefit the larger landholding dominant castes' lands, when the drought breaks and the rains come any watershed benefits will accrue to them and not Dalits - potential increase in work for Dalit agricultural labourers when the rains come if watershed structures benefit the dominant castes' fields, reinforcing the Dalits' dependency on dominant caste landowners for work - little potential benefit at all for Dalit small and marginal cultivators since watershed structures not placed to benefit their lands despite needing watershed development the most for their rain-fed lands 	<ul style="list-style-type: none"> - estimated 10 percent increase in land brought under cultivation due to clearing of rocks, use of organic fertilisers and increasing irrigation water sources due to watershed rain harvesting structures - shift to more organic agriculture to minimise input costs and increase in per acre yields already witnessed towards the completion of the watershed before the drought set in - rise in water table once the drought breaks and 25 desilted wells will provide more irrigation water sources

	<ul style="list-style-type: none"> - notably, many watershed structures, especially the gully plugs, contour and field bunds were washed out in a hailstorm in 2001, and the checkdam near Eguvapalli is allegedly already starting to leak, pointing to lessening potential impact of these structures once the rains come 	<ul style="list-style-type: none"> - benefits evenly distributed across all communities in villages, with Dalit lands in the upper catchment ridge areas targeted for watershed structures, but with percolation checkdams and other structures ensuring that dominant caste landowners with lands in the lower catchment areas also receive watershed benefits - creation of alternative income generating activities through loans to single and landless women as well as planting of trees in all Dalits and other poor lands - increase in drinking water levels in wells noticeable as compared to villages surrounding the watershed villages
<p>Other impacts</p>	<ul style="list-style-type: none"> - dominant castes increasingly investing in borewells, which, once the rains come, will increase their livelihood security in cultivation by providing more assured irrigation sources; this is something that Dalits will not enjoy due to not possessing sufficient financial capital to invest in borewells - increasing livelihood security levels for mostly the dominant castes of the villages, while Dalits perceive that their socio-economic position has not changed at all due to the watershed development 	<ul style="list-style-type: none"> - increasing livelihood security levels for all communities in the villages, and greater livelihood security for Dalits who can better cultivate their lands once the rains come - by placing emphasis on women's equal participation and say in watershed development and developing their capacities through watershed skills trainings, women's social position in the villages has seen some improvement; some backward caste women are venturing outside of their homes for the first time to undertake work in the watershed - less divisions between Dalits and backward caste agricultural labourers in particular, as both were equally targeted for watershed development and hence less competition for labour work in the dominant castes' fields - increase in caste tensions in the village as Dalits in particular become more economically independent from the dominant castes in terms of work; this will potentially increase once watershed benefits are fully realised with the rains and hence will require follow-up action by project implementing NGO

The results so far in government watersheds, as exemplified by Tavalam watershed, tend towards skewed enhancement of the asset base of the landed, richer dominant castes without sufficient steps being taken to protect and promote the stakes of Dalits in watersheds. In the process key rights for Dalits of participation in development and sustainable development of livelihoods have been violated. An alternative scenario in Gerigelavanka watershed of active community participation with emphasis on the inclusion of poor communities, particularly Dalits, has been presented throughout this report for comparison of a different process. The results are also quite different when Dalits and other poor are allowed to determine the watershed development and management process.

Rights to Participation in Watershed Development and Sustainable Livelihoods

As watershed management is an integrated approach to natural resource management that aims to secure natural resource based livelihoods in the local village community, it must be participatory in process and provide training and capacity building for all communities in the watershed. However, taking into account the differentials in access to resources, particular emphasis on participation of Dalits and other landless or marginal cultivator communities who most require development of their lands is essential for the village community as a whole to receive the benefits of watershed development.

Under *Article 46 Indian Constitution*, the State has a duty to promote with special care the educational and economic interests of Dalits. This duty complements the right to work set out in *Article 6 International Covenant on Economic, Social and Cultural Rights 1966*, wherein the Indian State has the duty to take steps to fulfil the right to work, including policies and techniques to achieve steady economic, social and cultural development and full and productive employment under conditions safeguarding fundamental political and economic freedoms to the individual. Hence, the State Government has a legal duty to ensure that the stakes of Dalits and other marginalised, poor communities are promoted through targeted watershed development interventions. This also means distributing lands to landless Dalits as a matter of *entitlement*, land being the

basic development factor in watershed projects. Moreover, with the government's explicit recognition of gender inequity in current agricultural operations and its goal to improve the status of women through skills building and technology transfer to women, within the Dalit community Dalit women should be specifically targeted for land distribution, watershed development and related works.

However, as Tavalam watershed Dalits emphasised, the denial of their right to participation in the development of the watershed, in terms of being denied their right to information and consultation about the project, and to informed participation and to work during the project, resulted in their exclusion from any of the watershed's intended benefits. Only 4 percent of their lands formed part of the watershed, with the majority of lands targeted belonging to backward and forward castes. Moreover, all Dalits with lands in the watershed were merely told what to do to ensure that particularly the dominant castes' interests would be served through the watershed's development, often with others building structures on or by their lands without consulting them.

Their exclusion was further emphasised through the non-transparent and top-driven decision-making process on watershed works undertaken by the Watershed Committee. The only Dalit woman in the Watershed I Committee only found out after some years that she was part of the Committee and often was just made to sign papers authorising money for watershed works. No Dalit was given any training to gain an understanding of watershed concepts and how watersheds structures could be managed to improve productivity of their lands. And certainly no Dalit women were specifically targeted for either skills training or for alternative livelihood activities, outside of micro-finance interventions.

In addition, the government failed to recognise the diverse livelihood activities that Dalits must undertake to secure their livelihood in conditions of low employment opportunities outside of waged labour. Hence, no support was given to supplementary livelihood activities such as livestock rearing. Nor did it choose to promote alternative activities with minimal monetary support for landless Dalits and women in particular, to enable them to branch out into more secure employment. The consequences, as revealed by the livelihood survey, are a recent shift among Dalits towards agricultural labour from

cultivation due to the drought, while among non-Dalits the trend is the reverse towards more cultivation of lands. With most Dalits from the villages not gaining any work opportunities in the watershed, not even short-term employment benefits were realised for them.

What Tavalam watershed shows is that without sustained interventions targeting the Dalit community for long-term enhancement of their livelihood capital to pull them above the poverty line, the benefits of watershed development will remain with the landed non-Dalits who already possess higher livelihood levels. This only increases the gap between the livelihood status of Dalits and non-Dalits, entrenching unequal power relations in the local village setting. This is apparent when seen in terms of the dominant castes continuing to interlink their control over the land, credit and labour markets to retain Dalits at the lowest rung of labourers. Hence, the non-confrontation strategy adopted by DPAP officials to avoid challenging the socio-political dimensions of development refuted the very principle of equity in development. The question that arises is what is the 'good governance' the government talks about, if it does not perform the role of ensuring that its citizens equally enjoy their right to development?

Moreover, after the completion of the watershed, measurable economic growth has not been seen in the case of Tavalam watershed. While drought prevents one from seeing the potential benefits of watershed development, the placement of watershed structures on non-Dalits' lands leads to a foregone conclusion that only their lands will be enhanced to increase their income generation opportunities. While many argue that Dalit agricultural labourers indirectly will benefit through increased workdays in agriculture once the drought lifts, this merely bandages over the real problem of caste discrimination resulting in unequal distribution of ownership and access to resources. Until and unless this pressing issue is addressed through government policy, any economic development of backward regions will not bring about poverty alleviation, social equality and a decrease in social tensions.

Finally, what government programmes have been promoted to aid Dalits, such as the 'Food for Work' programme, leave Dalits where they were to start with as there are no long-term improvements to

their livelihood levels. Meanwhile, savings and credit groups become mere balms over the gaping wound of caste that cuts to the core of why Dalits are found concentrated in such 'Food for Work' programmes.

Hence, while greater land productivity due to more assured irrigation through watershed development may lead to higher incomes and increasing agricultural growth to meet Vision 2020's ambitious targets, the socio-economic costs of watershed development in terms of Dalits' livelihoods is also high. Where watershed development schemes do not address unequal caste-differentiated patterns of ownership, control and access to livelihood assets and resources, nor emphasise targeted interventions to develop the livelihoods of the poorest of the poor, the Dalits, the result is merely reinforcing the low livelihood base of this community. Without sustained interventions to assist Dalits to build the requisite natural and financial capital, combined with human capital through healthcare and education, Dalits will not be able to achieve sustainable livelihood levels in dryland regions.

When combined with the State Government withdrawing from active participation in social welfare services for Dalits and from direct intervention in development processes, promoting watersheds as the solution to high poverty levels in backward dryland regions is in danger of becoming mere rhetoric.

Main Recommendations

The alternative scenario, as exemplified by Gerigelavanka watershed, requires a watershed development policy based on ensuring equality of opportunity and access to basic resources, employment and fair distribution of income to Dalits so as to fulfil their rights as enunciated in *Article 8 Declaration on the Right to Development 1986*. Both the State Government and international development cooperation agencies promoting watershed development in the state must understand how the caste-class dynamics that mark Andhra Pradesh society result in low human capital being possessed by Dalits.

This in turn must fuel greater inclusion of Dalit stakes in watershed development projects. To do so would open up opportunities for Dalits to access and participate in development projects that have potential

to lead to greater access to income generation activities from land and related resources, alternative livelihood activities and access to the market. By utilising a dialogical approach to such development projects, allowing civil society and particularly marginalised sections such as Dalits to play a key role in the development process, equitable development will become a realisable goal.

Bearing this in mind, the State Government should respond through such measures as:

- Involving Dalit leaders in the district level committees for selection of watersheds and to ensure a greater understanding of Dalit issues in watershed projects.
- Placing adequate emphasis at the policy level on project level equity, in terms of selecting 'Dalit watersheds' and giving priority to lands belonging to or assigned to Dalits for protection and enhancement through watershed development.
- Ensuring a proportional representation of Dalits and women in watershed committees, especially among key office bearers.
- Prioritising Dalits, Adivasis and the landless for all construction and labour work involved in watershed development.
- Coupling watershed development with provision of basic amenities and ancillary income generation activities - livestock, dairy, petty business, cooperatives, etc. - to give particularly single and landless women a stake in watershed development.
- Fully implementing land reforms and land ceiling laws to guarantee to every landless Dalit family at least 3 acres of land, registered in the name of the Dalit woman of the household. Only then will Dalits truly be able to benefit in the long run from watershed development.
- Providing trainings for Dalits, and Dalit women in particular, so as to increase their understanding of watershed management, linked processes of cultivation, processing, value addition and marketing, to enable them to compete in the market.
- The pace of watershed development must not be governed by government imperatives of meeting targets of funds spending, but must be set by the pace at which the poor are able to

participate in the development process, as the poor and Dalits in general may require greater facilitation.

- Rights to all new watershed bodies developed in the watersheds should be given to the poor and Dalits, through such institutions as their SHGs.

Endnotes

1. "Revitalising Agriculture", *Vision 2020: Chapter 9*, Andhra Pradesh Government, at pg. 179.
2. Watershed Development Programme, Government of Andhra Pradesh, 2001 <<www.andhrapradesh.com/apwebsite/programs/watershed_dev.html>>.
3. Arogyawaram Development Society (ADS).
4. Krushi Samstha.
5. Note: With groundwater over-extraction and drought conditions prevailing throughout Chittoor district since 2000-2001, even borewell irrigation is becoming less secure, with borewells currently having to be dug to a depth of between 350 to 500m to find water. Again, those with financial capital to sink wells (approx. Rs.75,000 per well), mostly non-Dalits, will be the ones able to negotiate this changing scenario. While the Scheduled Caste Finance Corporation in the state does subsidise drilling of borewells for Dalits, the contribution of Rs.7,900 expected of Dalit farmers still precludes many poor Dalit farmers from accessing this benefit.
6. Kerr, J. et al, *An Evaluation of Dryland Watershed Development Projects in India*, Environment and Production Technology Division, International Food Policy Research Institute, 2000, Washington.
7. WASSAN, *Process of Inclusion and Exclusion of Poor in Ongoing Watershed Programme in Andhra Pradesh*, 2002, Hyderabad.

Chapter 5

Vision 2020: Emerging Contours of Governance

The Andhra Pradesh people are being promised a bright future. By the year 2020 everyone will lead a comfortable life filled with equal opportunities to learn, develop skills and earn a livelihood. Moreover, poverty will have been eradicated and current inequalities vanquished, building in their stead a just and egalitarian society.

Acknowledging that Dalits are one of the communities most vulnerable to risks and circumstances that affect their quality of life and ability to participate in the economy, Dalits are offered the assurance of empowerment and full protection of their rights in Vision 2020. This is coupled with priority being ostensibly given to equipping them with the means to develop their capabilities and the opportunities to put these capabilities to good use to establish secure livelihoods.

Following on from the new direction set by the Andhra Pradesh Government's White Paper on the State Economy in 1996 and the introduction of the Andhra Pradesh Economic Restructuring Project in 1998, Vision 2020 is purported to be a forward looking policy instrument for bringing about a high level of development and positive change process. Stimulating economic growth is offered as the primary strategy through which socio-economic development should occur, economic growth being touted as creating new employment opportunities and hence increased livelihood security, as well as additional resources for the government to plough back into social development.

This model of development requires a radical shift away from subsidies and welfare provisioning towards a new economic agenda. This agenda is built upon three basic premises that form the basis for Vision 2020's approaches to governance and growth:

Premise/Assumption	Approach
<ul style="list-style-type: none"> • The State Government views the resources falling within its jurisdiction as assets for economic exploitation to improve economic productivity; its goal is exploitation to the maximum of the state's comparative advantage in terms of these resources to increase economic opportunity. 	<p>⇒ Concentrating on high potential growth sectors in three major areas of the economy - agriculture, industry and services - as its engines of growth with an export focus, to build on regional strength in terms of resources and economic activities.</p>
<ul style="list-style-type: none"> • The State Government considers society as composed of productive units which, often due to low human capital, are not as economically efficient as they could be; poverty is viewed as economic poverty and not as structural poverty arising out of inequitable distribution of resources and discrimination in access to livelihood capitals; social inequality is put down to poor health and education standards leading to low productivity levels, poor urban infrastructure and services and limited opportunities for the largely rural population to productively participate in the economy. 	<p>⇒ Building productive capabilities (human resources) through focus on primary education and primary healthcare, to increase labour opportunities for income generation and decrease poverty; coupling increased productive capabilities with infrastructure development to attract investment in the economy; realisation of social justice and empowerment through the medium of the market.</p>
<ul style="list-style-type: none"> • The State Government envisions its role as a facilitator and catalyst of economic growth by becoming an instrument of market-based development; it considers that its former social welfarist role that promoted public sector enterprises, subsidies and social welfare for the poor and weaker sections has led to a rising fiscal deficit and low revenue creation for development; it makes the market assume the task of poverty eradication and role of equaliser of society. 	<p>⇒ Transforming governance by channelling efforts towards enabling and facilitating growth, particularly through providing an enabling environment for private investors to invest in the growth engines in the state; mirroring global trends in deregulation and opening up of markets.</p>

Vision 2020 thus heralds not only an economic policy change to that of increasing integration into the market-based economy and market-based development by the Andhra Pradesh Government, but also a change in the very functions and objectives of governance itself. In light of the three case studies in the preceding chapters, three areas for inquiry from a human rights perspective arise:

1. How does this policy envision the State as a governance system and in what way does the State see itself as a change agent? Through this new understanding of the State as a governance system, how does Vision 2020 want to define the State vis-à-vis its roles and responsibilities?

2. As the State exists in relation to society, how does the State want to look at society in terms of its structure (substance) and the type of structure (form), and how will it stimulate changes in both society's substance and form? Does the policy recognise equitable development for all communities and how does it want to change the system of relationships that make up Andhra Pradesh society?
3. As the State is authorised to deal with resources in function of society, how does it want to exploit these resources for the equitable progress of all sections of society?

Human Rights Law and Indian Constitution: A Progressive State Design

The State is said to commit itself to respecting, protecting, promoting and fulfilling the human rights of its citizens to ensure their sustainable development. This role requires its adherence to good governance principles.¹ What this entails is transparency and accountability to its citizens in terms of informing them as to what the State is doing for the public good and well-being. The State should respond to the needs of the people, by being open to the citizens' agenda for their socio-economic development and involving them as key players in development processes. This is achieved by expressly linking developmental processes in the country to internationally guaranteed rights such as housing, education, health, freedom of speech and freedom from discrimination.

Moreover, the State has a responsibility to play a positive interventionist role, to create conditions in which all communities equitably prosper and have access to resources and opportunities. In particular, the State has the responsibility to implement policies and laws without discrimination and to pay particular attention to the rights of vulnerable or marginalised groups in the process of development. By fashioning its role and governance system in this manner, the State ensures that all citizens enjoy seven key freedoms necessary for their development and enjoyment of human rights, and which underpin the rights based approach to development: freedom from discrimination, especially on the basis of caste and gender in the Andhra Pradesh context; freedom from want to enjoy a decent standard of living; freedom from fear caused by threats to personal, family or community security;

freedom from injustice and violations of the rule of law; freedom of thought, speech, association and to participate in decision-making; freedom for decent work without exploitation; and freedom to develop and realise one's human potential.² The result would be an effectively integrated society, enjoying peace and well-being for all.

These principles fall in line with the international community's perceptions of social progress and development as articulated in *Article 8 Declaration on the Right to Development 1986*. Explicit recognition is given to the State's obligation to undertake all necessary measures to realise the right to development, including the right to participation in development, equal opportunities and access to basic resources and services, and equal distribution of the benefits of development. In this regard, appropriate economic and social reforms should be carried out with the view to eradicating all social injustices, as only then will the process of development fulfil its goals of improving both social and economic indicators without creating further disparities and concentrations of power and wealth in the hands of a few. A human rights approach to development would, therefore, imply a change in the structure of production and distribution in the economy which ensures *growth with equity*. This means a programme of development that does not rely on market mechanisms alone, but also on a strong State role in ensuring socio-economic development and international cooperation.³

In specific relation to Dalits, *paragraphs 33, 34 and 36 CERD General Recommendation XXIX* enjoin the State to elaborate, adopt and implement plans and programmes of economic and social development on a non-discriminatory basis, including substantial and effective measures to eradicate poverty among descent-based communities such as Dalits, to combat their social exclusion or marginalisation and to promote their employment in public and private sectors. *Paragraph 35* also lays down that the State should work with intergovernmental organisations, including international financial institutions, to ensure that development or assistance projects that they support take into account the economic and social situation of members of descent-based communities.

Much of international human rights norms for socio-economic development are found in the *Indian Constitution*, built upon a socialist democratic perspective. Recognising that political freedom gained at Independence is inadequate for social well-being without

social and economic inequalities being also addressed, the design of the Indian Welfare State is informed by three mutually reinforcing principles of socio-economic and political justice, equality in status and opportunity, and fraternity to ensure the dignity of individuals and integrity of all citizens.

Bearing these principles in mind, the Indian State has constitutional obligations under *Part III: Fundamental Rights* to play a catalytic role in eradicating caste discrimination and ensuring justice and equality to particularly its Dalit citizens. While untouchability is abolished under *Article 17 Indian Constitution*, *Article 14* provides for equality of Dalits before the law and by implication in policies of the government. Moreover, the State must provide equality of opportunity in matters of public employment through affirmative action programmes (reservations) as per *Article 16*, while protecting the right to life and personal liberty of Dalit citizens under *Article 21*.

In addition to social reforms as envisaged through the preceding constitutional rights, a minimum programme for realising both social justice and economic development is laid out in *Part IV: Directive Principles of State Policy*. Crucial to ensuring equitable socio-economic development for Dalits, given their history of work and descent based caste discrimination, are *Articles 38, 39 and 46 Indian Constitution*. These constitutional provisions enjoin the State to secure an equitable social order for the promotion of the welfare of the people, taking special care to promote the educational and economic interests of Dalits and to protect them from social injustice and all forms of exploitation. The Supreme Court has gone further to declare the right to social and economic justice as a fundamental right,⁴ while interpreting the right to life in *Article 21 Indian Constitution* as implying the fundamental right to livelihood to be able to live with human dignity.⁵

This requires State policies to be directed towards ensuring, *inter alia*, that all citizens have an equal right to an adequate means of livelihood; that ownership and control over material resources are distributed for the common good; that the operation of the economic system does not result in the concentration of wealth and means of production to the common detriment; and that the health and strength of workers are not abused. This is coupled with directives towards securing key livelihood rights such as the rights to work, just and

favourable conditions of work including a living wage, education, health and improving levels of nutrition and standards of living under *Articles 41, 42, 43 and 47 Indian Constitution*.⁶

All these legal provisions read together lay down a development model that incorporates an equal balance of social justice and economic development into economic policies. This translates as enhancing the role of the State to intervene in a highly unequal socio-economic situation to redistribute resources through such methods as land and agrarian reforms. It should also protect with special interest the livelihood rights of Dalits, which also serves the objective of enhancing economic development through effectively integrating this essential labour force into State development.

Therefore, key questions to be asked are: how does the State's role and function in relation to securing socio-economic development for Andhra Pradesh citizens and its governance structure, as propounded in Vision 2020, measure against good governance principles? How does the State seek to ensure people's participation in the development process and equality of opportunities flowing from Vision 2020 without discrimination? What affirmative action policies and steps are put in place to guarantee livelihood rights for Dalits and other marginalised communities and their integration into the broader Andhra Pradesh society? And in fulfilling its role to utilise resources for the maximum common good and development of its citizens, does Vision 2020 ensure the redistribution of resources, the eradication of poverty and the right to social, economic and environmental development as a holistic and sustainable process?

Vision 2020 and People's Development: A Critique Enabler of Market Based Development vs. Good Governance

Vision 2020 spells out clearly the new role of the Andhra Pradesh State Government. From being primarily a regulator of the economy and promoter of social welfare and development, the new State role is 'a facilitator and catalyst of economic growth.' The policy emphasises that the government does not have the financial capacity to bring about development alone and that rising public expenditure on salaries, subsidies and social welfare has led to a rising fiscal deficit and low revenue creation for development. Therefore, cutting

back on subsidies and welfare measures, coupled with enhancing private sector participation in the state's economy, is claimed to be essential particularly in labour intensive industries.⁷ To attract this private investment, price rationalisation, deregulation of the economy and creation of infrastructure to support private enterprises is required to 'create a conducive environment for business'. The result is supposed to see the government freed up to concentrate on priority areas such as primary education, primary healthcare and basic infrastructure in the villages, leaving the rest to private enterprise.

The Andhra Pradesh Government will be an enabler of market-based development by providing a growth conducive deregulatory policy environment. Its role will be to facilitate economic activity in sectors best operated by the private sector and to provide services in others.

Vision 2020, Andhra Pradesh Government

Disinvestment and privatisation of public sector enterprises is expected to free up more funds for these development priority areas, while government efficiency will be apparently improved through increasing devolution of administrative powers to the panchayats and local committees to manage local infrastructure and services (but not resources and many development activities). Thus, the Welfare State is to be transformed into a State where the limited role of economic governance by the government is complimented by increasing private provision of services and employment. Private capital is emphasised as the key to economic growth, to provide employment opportunities and hence greater income for the government to make available essential services for the people to improve their livelihoods.

Meanwhile, the Andhra Pradesh Government remains conspicuously quiet on how issues of equitable development and social justice will be addressed where private capitalists and the market control the development process. A blind faith seems to be expected of the Andhra Pradesh people, and particularly the poor, that the private sector and the market will provide better and sustained economic development, equitable distribution of resources and opportunities. Thus, while retaining its political role in governance and a diminished role in guiding the state's economy and development process, the State Government is in effect abrogating its pro-people and positive interventionist role and instead playing a provider role to the market.

In other words, by offering the state up on a platter to private investment and dominant caste-class capitalists, the State Government is sacrificing its autonomy to be an engine of growth, development, welfare and guarantor of people's freedom.

It thus forgoes its primary role to transform the caste status quo of society into one that integrates all marginalised and poor groups such as Dalits into the development process by redistributing resources, welfare distribution and providing a more participatory framework of economic management.

By doing so, the Andhra Pradesh Government is indulging in the politics of lopsided development rather than upholding the right to development with equity as propounded in the *Indian Constitution* and international human rights law. Despite stating that the government will remain responsible for investment in key areas such as primary healthcare, primary education, poverty eradication, social welfare, rural services and selected infrastructure, the bulk of the Vision 2020 policy and this study's findings indicate a contrary trend. Civil society is expected to develop using its own resources, with opportunities in private sector employment and services open for those who have sufficient capital, information, technological know-how and socio-political assets to gain access to them.

The government thus disregards the fact that social development in a caste hierarchical society requires the mediation or intervention of the State to transform the inequitable social structure into one where all can realise their full human potential and development. This cannot be left to the mediation of the market. This is because commercial markets operate to benefit those who have the ability to compete in the market through access to and possession of livelihood capitals, disregarding caste-gender inequalities of opportunities and access to resources.

As this study illustrates, reliance on the market to correct inequalities and to produce a 'trickle down' distribution of benefits to the poor is a retrograde step as far as securing Dalit livelihoods is concerned. In the case of Dalits, caste circumscription of their access to livelihood capital and socio-political assets excludes them from being able to participate in the market, as evidenced in the three case studies in this book. The result is effective capture of the State by the

convergent dominant caste-class elites, technocrats and industrialists, supported by international trade and finance institutions, and a widening gap between the non-Dalit 'haves' and Dalit 'have-nots'. This thereby reinforces the caste system's discriminatory economy, if not exacerbating its effects.

The very issue of good governance, therefore, comes into question. Promises to decentralise government, to make it responsive, transparent and accountable, to involve the entire village community in managing local services and infrastructure, hide the true aim to effect economic reforms which wrest resources and opportunities away from Dalits and other 'lower castes'. Transparency would require the government to consult and inform Dalits in the villages of the proposed shift to a market based economy, as well as to set in place mechanisms to ensure their basic right to development through guaranteeing their rights to work, land, health, education and affirmative action measures. Accountability would demand that the government hold itself accountable foremost to its citizens, especially its disadvantaged sections such as Dalits, rather than to private investors and international financial institutions.

Meanwhile, devolution of governance may be a good aim, but by limiting local community participation to management over services and infrastructure and not resources, and by not pro-actively eradicating caste discrimination embedded in state and civil institutions and enabling Dalit participation in local bodies, the government fails to provide Dalits with political space in which to articulate their rights. Already, the number of Dalits holding positions in the panchayats is low despite the provision of reservations in the panchayats. Added to this is the government's creation of parallel institutions such as Water Users' Associations, Watershed Committees, Education Committees and Health Committees, in which reservations are not given. The consequence is that Dalit participation in local decision-making is very low due to unchecked caste discrimination.

Hence, for the Andhra Pradesh Government to truly claim that it is a government for the people, a SMART (simple, moral, accountable, responsive and transparent) government, it must actively ensure broader participation of poor and marginalised groups such as Dalits in governance and decision-making processes. The role of civil society

in development processes has been illustrated in Gerigelavanka watershed, where people's participation in deciding their development needs, with specific focus on landless, marginal and small farmers, is showing beneficial results for all the communities in the villages. While this brings with it increasing caste tensions, it is also redistributing not only resources but also power relations within the village to bring about greater social equity.

Moreover, the State Government cannot relinquish its role as a market regulator which judiciously directs the state economy so as to protect the right to sustainable development of its citizens. What is required is for the government to commit through policy reform and comprehensive time-bound programmes to addressing the structural causes of poverty and livelihood insecurity in existing power and property relations. Further, it should recognise the surplus appropriated from the Dalits as unsecured and underpaid labour.

Building Productive Capabilities vs. Right to Secure Livelihoods

Vision 2020 envisions citizens in society in terms of their productive abilities to stimulate further economic growth and not as humans with inherent rights to equality, social justice, livelihoods and development. It thus places economic imperatives at the centre of development processes, as opposed to people as pronounced in *Article 1 Declaration on the Right to Development 1986*. The emphasis on building human capital and capabilities is explicitly aimed at enhancing the labour productivity of people and hence greater economic efficiency.

This narrow view is consolidated by linking human resource development, along with infrastructure development, with the ability of the State Government to attract private local and foreign investors, without placing any emphasis on development of human capabilities as an end in itself. cursory mention is made of justice and protection of the rights of Dalits and other poor and marginalised groups in the process of development, but without specific measures spelt out as to how the government will fulfil this role in light of its economic development goals.

The government premises poverty and inequities between disadvantaged groups such as Dalits and the rest of the population on poor health and education standards leading to low productivity

levels, poor urban infrastructure and services and limited opportunities for the largely rural population to productively participate in the economy. While these may be contributing factors, no mention is made of the socio-religious factor of caste discrimination, which plays a key role in denying Dalits access to livelihood capital and opportunities to develop. Hence, while the government may spell out an agenda of primary education and health programmes, basic infrastructure development, poverty eradication and skills building to empower people to become 'catalysts of development', without facilitating access to resources and economic opportunities a question mark is raised over how much Dalits will be able to seize opportunities and benefits from these programmes.

These issues of access and benefits are clearly illustrated through the main initiatives being implemented by the government to build capabilities. In the area of education, more *anganwadis* and primary schools with better management and more effective teaching are positive though not new goals. Low-cost solutions offered by the government are the concept of Education Volunteers to increase the teacher-to-student ratio and devolution of school management to Village Education Committees. Both these solutions may have some benefits, but these are outweighed by increasing disparities between the standards of education in government schools where most Dalit children study, as compared to private schools.

The same danger lies with technical education, where, unless priority is given to building up the skills of Dalits and factoring in the poorer education levels of Dalits in general into admission criteria, these job-oriented courses may serve only to build up employment skills for those with higher levels of financial and social capital. And particularly in higher education where there is a dearth of Dalit students and which is becoming increasingly important as the emphasis shifts to technological and skilled employment, leaving higher education delivery to the private sector will preclude most financial capital-poor Dalits from accessing these institutions. Therefore, they will lack access to the knowledge and skills required to compete with non-Dalits in the formal employment sector.

Already in the villages that form part of this study, education levels among Dalits remain lower than that of non-SCs/STs in general, while the only government technical training comes by and large in

the form of savings and credit self-help groups. Without detracting from the value of micro-finance schemes, no similar focus lies on education and technical training for Dalits to branch out into different occupations outside of mainly agricultural labour. Hence, savings may rise but without opportunities to shift into other occupations, the impact of savings groups will remain limited. Moreover, with the growth of large private industries, corporate and business ventures as a result of macro-economic reforms, the viability of self-employment in small rural industries and businesses becomes uncertain. Dalits may thus learn how to save, but lack any money to save due to declining agricultural workdays brought about by Vision 2020's growth engines, as well as lack alternative employment opportunities outside of informal waged labour employment.

In the same way, healthcare is being increasingly handed over to the private sector, especially secondary and tertiary healthcare. Community healthcare centres are to be used to expand the reach of primary healthcare provided by the government, thereby progressively devolving healthcare to local bodies. With private healthcare use in Andhra Pradesh already among the highest in the country and with no link between private healthcare and low-cost healthcare delivery, healthcare is set to become a costlier affair.

Without focusing on increasing provision of quality and low-cost healthcare in government healthcare services and instead focusing on fiscal management and cost recovery through devolution to either the private sector or local bodies, the trend already apparent in the study villages is of increasing healthcare costs from accessing private healthcare institutions due to malfunctioning of many government healthcare institutions. While this in itself fuels the debt cycle for many Dalits by creating greater dependence on the dominant caste-controlled informal credit market for health-related loans, Vision 2020 remains silent as to the increase in workdays lost due to ill-health caused by aquaculture's pollution of village waterways, or by increased pesticide and fertiliser usage under contract farming. These hidden costs in effect negate what little improvements to public healthcare are being offered by the State Government.

Already by 2003 social and financial indicators point to little improvement on most social development fronts that fall short of the promises doled out in Vision 2020. Primary healthcare and education sectors during the period 1998 to 2002 saw only a 0.2 percent rise in their percentage of the GSDP. Moreover, this policy commitment to improving Dalits' health is contradicted by the dwindling health budget of the Social Welfare Department to nil during the second half of the 1990s, despite it being the primary government department responsible for the welfare of Dalits. Whereas in 1995-96 the healthcare budget allotted for disadvantaged groups was Rs.12.66 lakhs (0.1 percent of the Department's budget), this fell to a mere Rs.42,000 (0.004 percent of budget) the next year, 1996-97. Thereafter no budget has been allotted for healthcare under the Social Welfare Department.⁸

Meanwhile, despite the education programmes promoted by the Social Welfare Department of the Andhra Pradesh Government for Scheduled Castes, budgetary allocation for education rising from Rs.5,186.48 lakh (32.1 percent of total Department budget) in 1995-96 to Rs.12,551.51 lakh (57.4 percent of total Department budget) in 2001-02,⁹ Dalit education levels remain much lower than their non-Dalit counterparts.

Government promises of capacitation, technology transfer and other means to improve human productivity have also proved false in the study villages. Lack of distribution of key land resources to Dalits in Nidamaru village, coupled with lack of capacitation and means to access financial capital to operate small-scale aquaculture farms has resulted in aquaculture development benefits accruing solely to the landed, capitalised dominant castes. In the case of Kuppam contract farming, no Dalit was given any training or capacitation in terms of intensive farming or drip irrigation. With the promulgation of the 2-KR and 3-KR schemes, the result is a widening technology divide between dominant caste farmers who are able to access these schemes and Dalit farmers who are precluded from such schemes due to the conditions imposed for access.

Similarly, Tavalam watershed exemplifies a common phenomenon across many of the watershed projects in the state of enforcing the existing inequitable status quo by not focusing on distributing land to the majority landless or marginal Dalit farmers. Instead, watershed structures are developed on non-Dalits' lands and they are equipped with an understanding of watershed concepts and methods to improve productivity of their lands. For landless Dalits and marginal farmers

whose lands are not included or do not receive substantial benefits in terms of work in watersheds or watershed structures on their lands, such programmes provide no new skills or enhanced land productivity which can further their economic development.

Other initiatives for poverty eradication and social welfare include strengthening public employment through work schemes to provide food security for the poor. While these schemes may promote rural development, the problems of insufficient monitoring and consequent misuse by government officials need to be urgently addressed. As pointed out by both Dalits in Tavalam watershed villages as well as Cheldiganipalli Dalits, though schemes like 'Food for Work' may provide employment and hence livelihood income especially during the drought, not only is Dalit labour tending to be exploited through their assignment of harder labour works as compared to other caste people in the programme, but also many are being cheated by government officials of their rice ration as payment.

The government also acknowledges that access to food is a universal entitlement that requires an effective food security programme. However, again issues of inadequate monitoring of food distribution through the PDS ration shops and caste discrimination are insufficiently addressed in Vision 2020. While in Nidamaru caste discrimination in access to the PDS ration shop may have ceased, it continues in Tavalam and Gandhinagar. Meanwhile, in Eguvapalli and Gandhinagar Dalits are regularly cheated of their full ration quota. Alongside these problems, the share of the GSDP allotted to rice subsidies was halved from 0.7 percent in 1998-99 to 0.3 percent in 2002-03 in line with the World Bank's suggestions that the public distribution scheme is inherently less efficient than public employment programmes. Hence, the scheme will only target so-called 'genuinely vulnerable groups', meaning a huge drop in those able to access PDS rations as the poverty line is utilised to arbitrarily deny families access to this scheme.

The above schemes amount to mere sops being handed out to the Dalits in rural Andhra Pradesh. No attempt is made to address the structural inequalities of land ownership, wages and other livelihood capitals. The tallest claim of the government along these lines is that it will remove current disparities. The primary strategy is to empower disadvantaged groups such as Dalits and protect their rights, continue

reservations to public employment and educational institutions, provide them access to state and civil institutions, enforce legislation to protect their interests and help them establish secure livelihoods.¹⁰ These are laudable aims on paper. But in a scenario where increasing privatisation and hence commercialisation of education and employment is being widely promoted, without an extension of the reservation system to private enterprises and educational institutions the reservation system is being rendered redundant. Moreover, human rights organisations continue to document widespread Dalit rights violations and the widespread caste bias leading to failure or negligence of the law and order machinery to arrest this trend.¹¹

One is left to wonder if the government deliberately ignores the fact that an economic policy that does not set out a comprehensive programme to redistribute resources to Dalits does little to address their caste ascribed deprivation of basic livelihood entitlements. While chapter 1 of Vision 2020, 'Progress through Poverty Eradication and Social Welfare' declares that the State will help Dalits and other disadvantaged groups gain access to resources they need to establish a secure livelihood, no mention is made as to how access will be gained and resources redistributed. Instead, upgrading skills, providing access to technology and other means to improve productivity and enabling Dalits to become self-employed are stated as government goals, all of which have been proved false in this study.

If the government were to complement its stated focus of protecting Dalits' rights with distribution of entitlements such as land to the majority agriculture-focused rural Dalits, along with a concrete programme of training, technology transfer, subsidies and access to formal credit institutions, it would go a long way towards equipping Dalits with the means and opportunities to socially and economically develop their capabilities. Social equity in a caste society demands no less, as caste discrimination and untouchability are only social mechanisms used to preserve unchanged the economic and political balance of power in favour of the dominant castes. Education, training and healthcare, despite all the pitfalls described above, may increase the human capital of Dalits to some measure to increase their productivity levels. However, without a similar focus on reallocation of resources on a priority basis to livelihood capital-poor Dalits, this study illustrates how they are only increasingly being excluded from opportunities for socio-economic development.

Focusing on Select Economic Growth Engines vs. Right to Work

The drive to increase economic growth has led the government to identify 19 primary growth engines within the three major sectors of agriculture, industry and services. Selection of the growth engines is based on the strength of resources, growth potential and sizeable contribution to the GSDP as well as to employment. Exploitation of the state's comparative advantage in terms of resources to maximise economic opportunity, which is stated to lead to greater employment opportunities, is the new vision held out to the Andhra Pradesh people.

Andhra Pradesh's people will be able to look forward to exciting new opportunities in a flourishing economy with thriving agriculture, industry and service sectors. If they live in rural areas, they will earn profitable livelihoods from a revitalised agriculture sector, find jobs on poultry farms, food processing or fisheries units, or be able to set up their own small-scale enterprises.

Vision 2020, Andhra Pradesh Government

Mirroring global trends in deregulation and opening up of markets, for example by reducing agricultural subsidies to supposedly increase trade in agricultural commodities, is thus incorporated into the State's new approach. By rapidly increasing the productivity of Andhra Pradesh's labour, creating more substantial exports thrust and building on regional strengths in terms of resources and economic activities, these export-oriented growth engines are supposed to drive economic growth for development. Resources are, therefore, viewed in terms of assets for economic exploitation such as minerals or water resources, or for enhancement to improve economic productivity, as for example through watershed or wasteland development. By not placing a primary emphasis on the sustainable use and development of resources, as well as the equitable redistribution of resources for the common good, maximum resource utilisation and exploitation is being set in place.

For those with the least access to and ownership of livelihood resources and assets, no mechanisms are established to ensure their share in either resources or the goods and services created out of resources. With most agricultural production, for example the growth engine of 'rice', gearing towards the export market through technological inputs and infrastructure development, and

To be noted is that state economists have pointed out that as demand pressure sets the pace of market based development, Vision 2020's envisaged 6 percent per annum rate of agricultural growth is not based on either a demand assessment or previous experience which has seen agricultural growth limited to no more than 3.5 percent per annum. Hence, increasing production without adequate demand could lead to a glut in the market.

Any development model has to be based on present strengths, opportunities and technology available, which Vision 2020 fails to do by ignoring the present decline in agricultural productivity due to the majority marginal and small farmers being unable to compete in the market and declining capital formation in agriculture. The shift of 30 percent of the population out of agriculture and into allied sectors, industries and services in the short space of 22 years is unrealistic based on previous experience, as is the promised economic growth rate.

The focus on agricultural production for the export market will bring in greater instability into agriculture due to the fluctuating nature of the export market, India's small ground in international trade as well as unrealistic expectations of subsidies reduction in line with WTO requirements to bring about greater export opportunities.

Vision 2020 also ignores that 'exim' policy is the exclusive domain of the Central Government, and hence changing policies can lead to Andhra Pradesh farmers being left to face difficulties in exporting their agricultural products.¹²

with shrinking food subsidies being provided through the public distribution system, the internal negative implications for food security of the state's poor are also being sidelined. Moreover, with the government committed to reducing administrative procedures for private investment and diminishing local body control over resources, public resources will be increasingly offered to the private sector through incentives that could lead to resource depletion without adequate regulatory enforcement by the government.

What the three case studies undertaken in this study have revealed is that the Andhra Pradesh Government's concept of development encapsulated in Vision 2020 merely invites a change in the form but not substance of current socio-economic development in the state. The government ignores the fact that increased commercialisation of markets accentuates differentiation in production and consumption, which reinforces power structures by limiting the bargaining power

of the poor, with dominant castes controlling both labour and production, as well as distribution of any surplus. The dynamics of markets thus operate to exclude Dalits who own little livelihood assets, skills and information, leading to their further pauperisation.

To seize opportunities and benefits from contract farming, aquaculture and watershed development, access to physical resources in the form of land, assured irrigation sources and financial capital is required, which are possessed primarily by non-Dalits as compared to Dalits. In addition, socio-political assets in terms of social contacts and access to information predicate who gains knowledge about new employment opportunities in these areas as well as other benefits. Again, these assets being primarily held by non-Dalits means that Dalits have little chance of accessing resources or schemes to convert their meagre resources into productive outputs. Debarred from access to these new opportunities, Dalits are witnessing the erosion of their traditional agricultural livelihood base.

The ramifications for the right to work of marginal and small Dalit cultivators are increasing inability to compete with non-Dalits due to the withdrawal of agricultural subsidies, coupled with lack of assured irrigation sources and financial capital to purchase costlier agriculture inputs in order to shift to an intensive export-oriented cropping pattern or to aquaculture. In effect, they are being squeezed out of agriculture.

By far the most seriously affected in terms of livelihood sustenance are the so-called 'unskilled' labourers, particularly agricultural labourers who constitute the bulk of the Dalit population in the state. The devaluation of labour in the market economy, declining annual workdays due to the influx of machines and new technology such as drip irrigation and shift to less labour intensive aquaculture is generating a labour surplus. This creates a situation where competition for labour results, in which greater labour exploitation or caste discrimination comes into play.

Thus, these schemes aimed at economic growth merely co-opt Dalits into the lowest rung of workers where greater labour exploitation results due to the lack of adequate safeguards being provided by the State. While soaring land prices as a result of the introduction of aquaculture or declining income levels further close off the land market to Dalits, declining agricultural labour workdays and labour force downsizing resulting from aquaculture, mechanisation and new

technologies increases dependency on the dominant caste landowners for both labour and credit. This means that the dominant castes successfully interlink all three markets to retain Dalits as an exploitable labour force. Hence, instead of loosening caste bonds in the process of development, market based development is only strengthening these bonds.

Faced with this emerging scenario of lowered standards of living for the majority rural Dalits due to declining opportunities in agriculture, and increasing migration and casualisation of labour, the State's response is woefully inadequate. Without intervening to confront and help transform the inequitable distribution of resources and opportunities under the caste system, neither does the government deliver on promised skills building and capacitation for Dalits to capture new employment opportunities arising out of its economic growth engines. The growth of small-scale services which the government says will lead to more secure employment for agricultural labourers has not been seen in any of the study villages, the only options presented to Dalits being to diversify into further unorganised, wage labour occupations. Indeed, outside of diversification into small-scale services envisaged in Vision 2020, no other concrete strategies are laid down in Vision 2020 as to how the State will effectively protect its large agricultural labour force and hence many Dalits from being denied their rights to work and livelihood.

Conclusion

Ultimately, what must be borne in mind when assessing Vision 2020 is that a very different understanding of development is being pronounced in contrast to the *Indian Constitution* and international human rights law. It is in recognition of the vital role of the State in all three aspects of governance - social, economic and political - that the *Indian Constitution* has laid down the basis for a welfare state in which a key responsibility for the State is rendering social service to people for their welfare and holistic development. International law augments this envisaged role of the State by placing an obligation on States implementing policies promoting economic growth to ensure that any benefits are equally distributed among all communities within their jurisdiction without discrimination.

Bearing in mind these two different 'designs' for development and the role of the State in development, Vision 2020's basis on macro-

economic policy imperatives dictated by the World Bank brings into question the whole concept of equitable development. By focusing on primarily the economic and not social dimension of development, with its political implications, this questions the inclusive and integral character of the development process itself. The constant emphasis on creating a conducive environment for private investors narrows to a considerable extent the space for people's participation in development. Moreover, without establishing concrete and targeted policy guidelines for inclusion of the poor and marginalised, especially Dalits, in economic activities aimed at stimulating growth and employment, resource- and socio-political asset-poor Dalits are set to be further excluded from development processes by the new market-based development regime.

Endnotes

1. Clarification of the concept and key attributes of good governance is found in Commission on Human Rights, *The Role of Good Governance in the Promotion of Human Rights*, 2000, Resolution no. 2000/64.
2. See United Nations Development Programme, *Human Development Report 2000*, at p.1.
3. UN Commission for Human Rights, *Third report of the Independent Expert on the Right to Development*, 2001, E/CN.4/2001/WG.18/2, at para. 15.
4. *CFSC Ltd vs. Subash Chandra Bose and others* (AIR 1992 SC 573 at p. 584-5).
5. *Olga Tellis vs. Bombay Municipal Corporation* (AIR 1986 SC 180).
6. These obligations are complimented by the duty to guarantee the supply of services such as education, healthcare and basic amenities to a level that achieves the progressive realisation of human rights and human development for all, as per the *International Covenant on Economic, Social and Cultural Rights* 1966.
7. Note: Current trends in fact show a decline in foreign direct investment in labour intensive industries such as leatherwork or garments towards greater investment in lucrative infrastructure development, which is rendered less labour intensive due to mechanisation. Similarly, private sector involvement in agriculture utilising new technologies and machines decreases employment opportunities.
8. Budget Document for 1997-98, Vol. III/12, Government of Andhra Pradesh.
9. Ibid. Note that the 1995-96 Social Welfare Department education budget accounted for a mere 3.0 percent of the GSDP.
10. See chapter 1, *Vision 2020: Progress and Prosperity through Poverty Eradication and Social Welfare*, Government of Andhra Pradesh, at p. 56.
11. See Sakshi Human Rights Watch, *Dalit Human Rights Monitor 1999-2000* and *Dalit Human Rights Monitor 2000-2003*, Hyderabad.
12. See K.R.Chowdary & A.Prasada Rao, "Agricultural Sector" and K.Chakradhara Rao, "Agriculture in Vision 2020", in D.Narasimha Reddy (ed.), *Vision 2020: Myths and Realities*, 1999, Sundarayya Vignanakendram, Hyderabad, at pp.48-68.

Chapter 6

Major Trends

Aquaculture, Contract Farming and Watershed Development

Vision 2020 aims to define the scope of Dalit livelihoods and their development for the next two decades. The community is promised stakes in the development process through government measures to ensure secure livelihoods for them. However, the three Vision 2020 projects launched in the study villages – aquaculture, contract farming with allied drip irrigation schemes and watershed development – highlight some of the issues confronting Dalits in Andhra Pradesh today as globalisation driven policy measures are being swiftly implemented. The summary below presents some of the major trends emerging from these three studies, with reference to Dalits in particular.

Right to Work

New Occupations and Changing Occupational Capabilities

- Dalits are precluded from any direct or indirect benefits of aqua farming, intensive contract farming or watershed development due mainly to the following interlinked factors: historical alienation from ownership or access to land and other resources; caste ascription of less skilled, low-waged labour occupations, particularly agricultural labour; lower human capital in terms of education and health levels combined with lack of technical skills training; lack of financial capital; and lack of socio-political assets and market linkages due to continuing caste discrimination.
- Commercial aquaculture and contract farming using agricultural machines and drip irrigation technology are precipitating the emergence of a new class of neo-rich in the study villages. Given the high capital investment required for these forms of

agriculture, coupled with land and irrigation water requirements, it is only non-Dalits, particularly the dominant castes, who have sufficient natural and financial capital to engage in these Vision 2020 growth engines. The high profits in comparison to traditional agriculture are, therefore, consolidating the non-Dalits' socio-economic status and enhancing their livelihood capitals.

- The government's Tavalam watershed I shows that without sustained interventions targeting the Dalit community for long-term enhancement of their livelihood capital, particularly through redistribution of key land resources, the benefits of watershed development will remain with the landed non-Dalits. Denial of Dalits' right to participation in the development of Tavalam watershed by way of being denied their right to information and consultation about the project, to informed participation and to work during the project, resulted in their exclusion from any of the watershed's intended benefits.
- Local dominant caste business people with sufficient capital have seized opportunities to move into the lucrative allied occupation of selling shrimp farming and intensive farming inputs. New occupations of aquaculture mestries and labour contractors in Nidamaru village have also been seized by non-Dalits.
- The government has failed to recognise the diverse waged labour activities that Dalits must undertake to supplement their main occupation and to secure their livelihoods especially during the agriculture off-season, due to low employment opportunities outside of waged labour. Hence, no support has been given to supplementary livelihood activities such as livestock rearing in dryland regions like Tavalam watershed I villages.
- With no technology and skills transfer to the 75 percent of agricultural labourers who were Dalits, at the end of the Kuppam Demo project they have gained no long-term livelihood benefits. Market linkages developed through the project did not develop into any labour shift from agriculture into allied sectors, as envisioned in Vision 2020 as an outfall of agro-industrial growth.
- Under the Kuppam Demo project, the small lease amounts paid to Dalits for their total marginal landholdings were far outweighed by the profits received by BHC Agro (India) Private Ltd,

in addition to the large financial outlay by the Andhra Pradesh Government for the company's services and technology transfer. By contrast, for the dominant castes, greater extents of land ownership ensured that not only did they receive more in terms of lease amounts, but simultaneously retained lands for cultivation to continue their livelihood occupation at the same time.

- Despite the government's announcement that the 2-KR and 3-KR schemes are targeted at small and marginal farmers, access to these schemes has rested with a majority of medium to large non-Dalit cultivators for several interlinked reasons: their greater access to natural resources of land and assured irrigation water; greater financial capital allowing them to meet more easily the no-loans stipulations in the case of 3-KR applications; social contacts which allowed them to understand the risks and benefits of drip irrigation; and a greater ability to risk implementation of these schemes again due to their possession of larger financial and natural capital than Dalits.
- Despite an emphasis in Vision 2020's agricultural strategy on development priority to women in agriculture, Dalit women received no technological or capacitation benefits in aquaculture, contract farming, drip irrigation or watershed development. Dalit women were not specifically targeted for either skills training or for alternative livelihood activities, outside of SHG interventions.

Impact on Cultivators

- A combination of factors is now in place to destroy whatever meagre livelihoods Dalit cultivators earned previously from their lands. One is decreased soil fertility due to high concentrations of pesticide and fertiliser residues from the contract farm intensive cropping patterns and unregulated outflow of aqua pond effluents into the surrounding irrigation water canals seeping into neighbouring agricultural fields. Another is groundwater depletion due to increased groundwater extraction for irrigation during the Kuppam contract farm period to ensure high crop rotations and yield profits. Finally, the prevailing drought in the state is causing a distress situation among particularly Dalit and other marginal farmers who operate small patches of rain-fed dryland without assured irrigation sources.

- There is an increasing shift by Dalits from cultivation to agricultural labour. Lack of interventions to strengthen Dalit cultivators' livelihoods through drip irrigation technology, aquaculture development, watershed development and its allied benefits, falling workdays in cultivation for Dalits due to decreased land fertility or drought, coupled with simultaneous increases in cultivation workdays for non-Dalits able to access drip irrigation, serve as indicators of this trend.
- In bypassing the Dalits in terms of benefits, Tavalam watershed only reinforces the livelihood divide between Dalit and non-Dalit cultivators, as once the rains come irrigation water security due to watershed structures will only enhance productivity of non-Dalit farmers and not Dalit farmers who need it most.
- While the dominant castes have greater natural capital – wetland or land with assured irrigation water sources - and financial capital to invest in the higher input costs required for the Kuppam Demo-style cultivation utilising drip irrigation or to compensate for soil salinity caused by aquaculture, marginal Dalit landholders lack sufficient natural and financial capital to follow suit. In the case of Cheldiganipalli Dalits, they are caught in a catch-22 situation. Not only can they not afford the new cultivation costs or borewells to access drip irrigation, but neither do they have the capital to invest in returning their lands to their former pre-Demo state to reinstate traditional cultivation patterns.
- For non-Dalits, cultivation benefits reaped through the Kuppam Demo project, 2-KR and 3-KR schemes have only supplemented their already full-time work in their fields, enhancing their annual workdays to bring in more income for their families. In particular, drip irrigation technology is seeing more non-Dalits' lands coming under cultivation as more even irrigation and less water wastage provided by the drip systems lead to increased crop yields. By contrast, though the majority of Dalits got drip irrigation after the completion of the Demo project, their ownership of marginal plots of dryland without sufficient borewells to operate the systems means dependency on rainfall irrigation continues to entail risks for Dalits in cultivation.

Impact on Agricultural Labourers

- The precariousness of Dalits' livelihood occupations can be best observed in the increasing under-employment levels among Dalits as compared to non-Dalits, particularly in their main livelihood occupation of agricultural labour. Most Dalit agricultural labour households have witnessed a reduction in their annual workdays from 1990 levels to the present, brought on particularly by lesser per acre labour requirements under aquaculture, increasingly mechanised agriculture and aquaculture operations and intensive agriculture using drip irrigation. In the case of Chittoor district Dalits, the continuing drought is also negatively impacting on work security for agricultural labourers.
- The Kuppam Demo contract farm and 2-KR and 3-KR drip irrigation schemes herald greater exploitation of Dalit labour. BHC Ltd exploited Dalits' human labour capital through higher wages and other work incentives to conduct intensive agriculture, increasing workloads and working hours to maximise labour inputs and hence maximise agricultural yields and profits for the company. Non-Dalit land owners benefiting from the irrigation schemes are demanding harder work for longer hours from a smaller labour force for wages that are barely commensurate with current consumption expenditure patterns. The result is a rising contradiction between greater dependency by Dalit agricultural labourers on the non-Dalit landowners for work and the lessening of non-Dalits' labour requirements.
- Another result of aquaculture, drip irrigation technology and potentially contract farming-style mechanised, intensive agriculture is also a growing agricultural labour surplus. Where labour has been the Dalits' main livelihood capital, labour surplus entails both increasing competition for work and deepening contradictions between the lower castes-classes, particularly between the 'lower' backward castes and Dalits who form the bulk of the agricultural labour force. With the widening gap in livelihood status between the dominant castes-classes on the one hand and the Dalits – lower classes on the other, the market is also dividing the lower classes on the basis of caste. This is facilitated by the dominant caste landowners through caste discrimination, with the majority of Dalits being denied work in

the aqua ponds and some further ousted from agricultural fields in favour of backward caste labourers. This pre-empts any possibility of the lower castes-classes joining together to perceive the contradictions and socially organise to demand the dominant caste actors, the market and the State address their stakes in development. In addition, this situation also gives rise to potential for future conflicts between the lower castes-classes.

- Dalits in Tavalam watershed I villages were bypassed for watershed works in favour of backward caste Vaddera labourers brought in from the nearby villages by both DPAP officials and then by the project implementing NGO for watershed works. This is despite the fact that the Dalits form the majority of the landless labourer class in the watershed villages.
- While many argue that Dalit agricultural labourers will indirectly benefit through increased workdays in agriculture due to watershed development on non-Dalits' land once the drought lifts, this merely bandages over the real problem of caste discrimination resulting in unequal distribution of ownership and access to resources. Until and unless this pressing issue is addressed through government policy, any economic development of backward regions will not result in poverty alleviation, social equality and a decrease in the social tensions.
- What government programmes have been promoted to aid Dalits, such as the 'Food for Work' programme, leave Dalits where they were to start with, while savings and credit groups are unable to effect substantial increases in Dalits' long-term livelihood security. Moreover, as experienced by Dalits on the Kuppam and Madanapalli sides of Chittoor district, government officials cheating the Dalits of their rice rations under the latter programme again reinforces the culture of labour exploitation of this community.

Livelihood Options before Dalits

- The negative effects of these three Vision 2020 projects on Dalits livelihood security only reinforce socio-economic patterns of inequality between Dalits and non-Dalits in access to labour, land and credit markets, leaving rural Dalits with little choice but to negotiate the market changes in several ways:

- i) Increasing migration, not only in the agricultural off-season but throughout the year, in search of agricultural work or other waged labour work such as cable laying, brick making or construction work. This is evidenced by the increasing migration workdays and/or days Dalits now spend looking for work, which has ramifications for family cohesion and the right of particularly children to a stable family life.
- ii) Greater casualisation of labour, their lack of skills and access to resources hindering their ability to branch off into self-employed, non-waged occupations to supplement lesser income. Livelihood diversification into waged labour occupations is the direct result of the introduction of aquaculture and drip irrigation systems, as well as the completion of the Kuppam contract farming project with no skills transfer or support to Dalit agricultural labourers and cultivators. Casualisation of labour brings with it lesser guarantees of respect for the right to just and favourable conditions at work, such as minimum wages and medical aid on the worksite, hence its association with low livelihood capital levels. By contrast, for non-Dalits, livelihood diversification takes place into self-employed occupations, their greater cultivation workdays indicating secondary occupations being utilised to augment financial capital.
- iii) An increase in non-savings expenditure, slowly eroding away at their financial and physical asset base. Several Cheldiganipalli Dalits have already sold off or are planning to sell off their drip irrigation pipes, for without financial capital to invest in borewells or cultivation, providing the pipes to Dalits serves no purpose.
- iv) Increasing loans to meet family expenses and healthcare, low financial capital forcing more Dalits to rely upon informal sources of credit, especially forward caste landowners. This is directly attributable to falling workdays in agricultural labour and cultivation, particularly under aquaculture, the 2-KR and 3- KR schemes, as well as the lack of new occupations or opportunities that have arisen out of the Demo contract farm. Moreover, with contract farming having introduced a range

of changes to natural resources, labour relations, labour requirements under drip irrigation technology, decreasing land and labour capital may force many more Dalits to rely on the informal credit market in future. The dominant caste landowners further exploit this situation by stipulating usurious interest rates that reinforce the dependency of Dalits on the dominant castes for work, providing a large, cheap labour pool to enhance the asset base of the dominant castes.

Natural Capital

- The study villages exemplify traditional large inequalities in land ownership. Caste discrimination in access to and ownership of land has relegated many Dalits to being either landless agricultural labourers or marginal landowners unable to sustain their livelihoods from their small parcels of land. Landlessness is more prominent among Dalit households in all the villages.
- Total land ownership among Dalits surveyed has decreased over the past decade, while non-Dalits own substantially more land and have witnessed the opposite trend of increased landholdings during the 1990s. Land has been mostly sold by Dalits due to poverty, pressure from dominant caste landlords or to pay for marriages. Otherwise, the majority of landed Dalits were and still are concentrated in marginal to semi-medium landholdings of less than 4 acres, while non-Dalits lie concentrated in semi-medium to large landholdings.
- Quality of land ownership between dryland and wetland and access to assured irrigation water, of importance in rain-fed dryland areas such as Chittoor district, is also sharply divided along caste lines. Non-Dalits own the majority of a small percentage of wetland in the villages. With the larger percentage of land being dryland that is either rainfall irrigated or well-irrigated, financial capital requirements for borewells and motors to pump up groundwater for irrigation preclude many poorer Dalits who own dryland from access to irrigation security. Taking land coverage under irrigation sources as a whole, at least half of Dalits' cultivated lands remain dependent on rainfall for irrigation, as compared to less than a quarter of non-Dalits' cultivated lands.

- Drip irrigation has only further emphasised the relatively lower productivity of Dalits' land as compared to non-Dalits' land, by enhancing irrigation water security for non-Dalits and allowing them to exploit water resources to bring more land under cultivation. Kuppam Demo-style intensive agriculture will bring about the same result as dominant castes sink borewells and link up drip irrigation systems. Similarly, the dominant castes in Tavalam watershed have also been the most financially placed to invest in new borewells to seize any benefits from watershed structures on their lands replenishing groundwater levels.
- Dominant caste control of the land market is visible in both land purchase - sales and leasing-in - leasing-out, this social group operating as key players in all land transactions. In all cases of households leasing in land both in 1990 and in 2003, the lessors were inevitably dominant caste landowners, particularly the forward castes.
- Aquaculture has brought about drastic changes in land markets, with a boom in both land sale and leasing-out rates. The result is to further bar access to ownership or use of land resources for Dalits who possess little or no financial capital. The decrease in leasing-in for Dalits is mirrored by a substantial increase in leasing-in for non-Dalits over the past decade. When reviewed in the light of reasons for changes in the lease market, this indicates that both poverty interlinked with the emergence of aqua ponds are playing a vital role in pushing Dalits out yet another option for access to land. At the same time it is opening up new opportunities for non-Dalits to seize complete control of the land market, where unequal power relations translate into Dalits being at the losing end in terms of accessing land rights.
- Should watershed development increase cultivation potential for the landed dominant castes, land prices will most likely increase in the area. Again, faced with little access to the land market, and with the rural credit market controlled by the dominant castes, the interlinkages between these markets and the labour market will only serve to tighten control on the majority Dalit agricultural labourers. This will in effect fix the Dalits into the same, low paid, insecure livelihood occupation.

- Caste discrimination in terms of denial of access to key common property resources such as grazing lands causes hardship to Dalits in Nidamaru, Boggitivaripalli and Eguvapalli in terms of finding sources of firewood and grazing land for cattle. Especially where aquaculture and drought both lead to declining grazing land availability, denial of access to common property resources cuts off a source of income to Dalits. Only in Cheldiganipalli and 2-KR and 3-KR villages are Dalits allowed to access common property resources.

Physical Capital

- Housing standards and access to basic amenities remain lower among Dalit households as compared to non-Dalit households, indicating poorer standards of living in Dalit localities. The main difference in housing standards appears not so much in terms of house site and house tenure, but rather in terms of the quality of housing: 77 percent of Dalits as compared to 35 percent of non-Dalits surveyed live in *kutcha* housing.
- In terms of basic amenities, only 56 percent of Dalits surveyed have electricity in their homes as compared to 88 percent of non-Dalits. The greatest disparity is seen in terms of toilet facilities in the home, with only 9 percent of Dalits as compared to 51 percent of non-Dalits enjoying this amenity. Most Dalits therefore defecate in the surrounding fields. Otherwise, the majority of Dalits still obtain potable drinking water from community taps, handpumps and wells, with only 4 percent of Dalit households as compared to 49 percent of non-Dalit households owning separate water tap facilities.
- In a similar pattern to the land asset base disparity between Dalits and non-Dalits, possession of other common physical assets such as livestock, irrigation facilities, tractors, modes of transport, televisions and radios, jewellery and kitchen electrical goods remains lower among Dalits as compared to non-Dalits. Most Dalits today, as before, have high consumption-based expenditure drawing upon income from waged labour works, which leaves them little financial capital to invest in more durable goods. Lack of physical goods not only indicates their lower livelihood status, but also a lesser ability to weather any sudden financial crisis in the household.

- The gap in terms of percentage of Dalit vis-à-vis non-Dalit ownership of physical goods in 1990 has increased by 2003, non-Dalits having by and large maintained or increased their asset base in the past decade. This serves as another indication of increasing financial capital accumulation among non-Dalits leading to increasing wealth disparity between Dalits and non-Dalits within the villages. For Dalits the asset base increase is less prominent and confined to lower cost items such as cots, televisions, bicycles and kitchen electrical goods.
- While drought across the state has led to a decline in fodder grounds and hence livestock numbers in many of the study villages, contract farming and aquaculture swallowing up village common lands has been a further contributing factor. As an alternative to agriculture, livestock rearing has the potential to provide an income to Dalits and other poor. However, with the above factors and the lack of initiatives in watershed development to protect grazing lands and promote livestock rearing, this potential source of income is only decreasing.
- Meanwhile, in drought-struck Chittoor district, the fact that in both Kuppam and Madanapalli areas mainly non-Dalit households have increased their ownership of irrigation facilities such as borewells and open wells over the time period 1990 to 2003 indicates their possession of sufficient capital to improve their income generating capacities and tide over the drought period.

Economic Capital: Savings and Loans

- Ownership of economic capital in terms of savings to tide over households in times of financial need or crisis is still largely confined to non-Dalits. Most Dalits have little or no savings, their wages from agricultural labour being primarily used for consumption needs and other key expenses such as healthcare or children's education. While financial inequity between Dalits and non-Dalits has always characterised the village economy, aquaculture, drip irrigation technology and contract farming style intensive, mechanised agriculture only sharpen the disparity by augmenting the non-Dalits' capital base. Dalits are not enabled to likewise achieve financial security due to their lack of livelihood capital to access any direct or indirect financial benefits flowing

from these schemes. Moreover, while costs of living have sharply risen over the past decade, declining agricultural workdays and stagnating wage rates in agricultural labour are resulting in growing dependency on informal loans to meet the gap between income and expenditure.

- Overall, the pattern emerging in access to credit markets is greater reliance by Dalits as compared to non-Dalits on informal sources of credit, most having regular standing credit from the dominant caste moneylenders, agricultural *mestries* and landowners. Linking their control over the land and labour markets with the credit market allows the dominant castes to strengthen Dalits' economic dependency on them. This dependency on the landowners has meant that the Dalits in Tavalam village have not been able to oppose watershed developments undertaken by the landowners on their own lands.
- Matching the growth in small savings and credit groups across the villages is that most Dalits are being forced to almost double their rates of loans from 1990 to 2003. Loans are taken out primarily for household expenses, cultivation purposes, healthcare and marriages. However, the ability to repay loans is the significant difference between Dalit households and the majority of non-Dalit households, with most non-Dalits relying on income from crops, while most Dalits rely upon their daily wages to repay loans plus compounded interest. When combined with declining agricultural workdays, the scene is set for entrenching indebtedness among Dalit waged labour households.

Human Capital

Education

- Both Nidamaru and the watershed villages reveal that education by itself is not enough to access greater employment opportunities and socio-economic mobility, without simultaneously guaranteeing Dalits access to resources and capacitation to build livelihood capital. Similar literacy and education levels among Dalits and non-Dalits in Nidamaru and watershed villages suggests that access to and ownership of resources and capital, and not education, has played a key role in economic mobility among non-Dalits, combined with social assets of networks to secure

access to economic opportunities afforded by Vision 2020. Only in the Demo contract farm project, 2-KR and 3-KR scheme villages was a disparity in literacy rates noticeable, with the main adult Dalits half as literate as non-Dalits.

- There is greater parity in terms of poorer literacy levels among both Dalit and non-Dalit women as compared to men of these communities, suggesting that gender discrimination in education is an overriding factor in denying education and knowledge to women across the different castes and communities.
- The trend is slowly increasing education levels in the villages today as education is being viewed more and more in terms of socio-economic mobility, though non-Dalit children are still completing schooling at a higher rate to Dalit children. However, the same gender disparity in education levels prevails across both Dalit and non-Dalit communities, with girl children dropping out of schooling earlier than boy children.
- Only non-Dalit families have sufficient resources to send their children to private schools, where a higher quality of education is generally expected. The majority of Dalit children in the villages go to government schools, while a few are also attending Scheduled Caste residential schools.

Government Skills Trainings

- Across the three case studies the dearth of government programmes aimed at buffering the threat to livelihood security for Dalits posed by Vision 2020 growth engines, by increasing human capital and capabilities through new livelihood skills and opportunities, is telling of the government's lack of commitment to enhancing Dalit livelihoods.
- Lack of distribution of key land resources to Dalits, coupled with lack of capacitation and means to access financial capital to operate small-scale aquaculture farms or enhance productivity of their lands has resulted in aquaculture, contract farming and drip irrigation development benefits accruing solely to the landed, capitalised dominant castes.
- The assumption in Vision 2020 of technology transfer spreading to the local villagers through contract farming was non-existent

in the case of the Kuppam Demo experiment. No Dalit was given any training or capacitation in terms of intensive farming or drip irrigation requirements. By contrast, the promulgation of the 2-KR and 3-KR schemes was closely linked with drip irrigation technology transfer from Israeli agricultural scientists to the farmers. The result is a widening technology divide between dominant caste farmers who are able to access these schemes and Dalit farmers who are not. Moreover, once the drip systems were set in place, Moddalayanka dominant caste farmers receive regular advice from Agricultural Department officials on irrigation development and agricultural machinery utilisation.

- Similarly, Tavalam watershed exemplifies a common phenomenon across many of the watershed projects in the state of enforcing the existing inequitable land ownership status quo. Watershed structures are being developed on non-Dalits' lands and they are being equipped with an understanding of watershed concepts and methods to improve productivity of their lands. For landless Dalits and marginal farmers whose lands are not included or do not receive substantial benefits in terms of work in watersheds or watershed structures on their lands, such programmes provide no new skills or enhanced land productivity which can further their economic development.
- The major government intervention in rural areas appears to be micro-credit programmes such as DWCRA and Velugu, targeting women for inclusion in self-help savings and credit groups. However, the benefits of imparting savings skills to Dalit women when their livelihood security has decreased, particularly in terms of lessening days of employment, seems questionable. While savings and credit groups may perform a vital role in bringing credit within the reach of the poor, without support programmes that enhance their skills and options to utilise credit to branch into other livelihood activities, the government falls short of a long term solution to poverty levels among Dalits and other poor. Moreover, with the growth of large private industries, corporate and business ventures as a result of macro-economic reforms, the viability of self-employment in small rural industries and businesses becomes uncertain.

Health and Food Security

- Dalits' high concentration among the poor and lower living standards in general has resulted in their significantly lower health levels as compared to most non-Dalits. This factor directly links with their ability to work to sustain their livelihoods where the majority of Dalits are agricultural labourers who engage in a host of supplementary waged labour activities.
- Groundwater and canal pollution caused by the unregulated release of shrimp pond effluents into the irrigation canal systems has resulted in an increase in water-related and skin diseases for Dalits in Nidamaru. Moreover, canal water pollution prevents villagers from now being able to collect potable drinking water from any of the surrounding irrigation canals, leaving them solely reliant on the undersized village water tank. When coupled with lesser access to water taps as compared to non-Dalits in the village, water scarcity means that Dalit women are forced to either draw water for cooking and bathing needs from the village pond or from the polluted irrigation canals.
- The Kuppam Demo contract farming project saw a 30 percent increase in health problems and health expenditure for the mainly Dalit agricultural labourers who were exposed on an almost daily basis to high concentrations of pesticides and fertilisers. This was a factor never made public by BHC Ltd or the government in its profit-driven evaluation report.
- Overall, there has been little improvement to Dalits' living conditions in the past decade. The hidden health costs of aquaculture and contract farming have fuelled a cycle of health-related expenditure, impacting on the ability of the households to build up financial capital and leading to greater dependence on the informal credit market. Moreover, where government medical systems are poorly operated and inadequately stocked with medicines, and primary health centres set to be privatised, most Dalits are pushed towards more costly privatised healthcare.
- In the case of non-Dalit households, many have also increased their annual expenditure on healthcare in the past decade. However, when viewed in the light of better health conditions and greater financial capital to spend on healthcare, health assets among non-Dalits remain higher than that of Dalits.

Social Changes in Caste Relations

- Forward caste Reddys, Kapus and Rajus dominate socio-political life in the villages. They wield power in terms of local politics and are the majority landholders and hence main employers of Dalit waged labourers. Otherwise, social interaction between Dalits and other castes remains confined to the arenas of supplies purchasing and marketing, shops and hotels, with Dalits not allowed entry into the forward castes' houses. Distant social relations are further reinforced by the segregated living arrangements in the village.
- Possession of socio-political assets is accorded along caste lines, with Dalits continuing to face caste discrimination and untouchability practices from dominant castes and having low political participation across the study villages. Only in Nidamaru has some progress been made in the abolition of visible untouchability practices in the village due to the prominence of the Dalit Mahasabha movement during the late 1980s to mid-1990s. Dalit assertiveness encouraged certain changes in social arrangements, though discrimination in terms of denial of access to vital village land resources still continues.
- In terms of participation in local governance and decision-making, while the majority of Dalits vote in the panchayat elections, Dalits have little say in local governance and allocation of development works in the villages, especially schemes that could potentially aid their socio-economic development.
- This situation of Dalits' low participation in local governance is being further emphasised with the introduction of parallel village committees by the State Government, for which there is no reservation quota for Dalits. Therefore, while Dalit participation in Education Committees, Mothers' Committees and Savings and Credit groups is visible in terms of numbers at least, in committees that decide allocation of vital resources such as water or village development, Dalit members and particularly elected representatives will generally not be present. The sole Dalit woman elected to Tavalam Watershed I Committee was not told for three years of her election. Even when she was told, more often than not she was just made to sign sheets of paper authorising watershed works without discussion.

- At the level of perceived changes to social relations, many Dalits cite the lessening dependency by the dominant non-Dalit castes on them for labour as a direct result of aquaculture and the introduction of mechanisation and drip irrigation technologies into agricultural operations. Prior to these new developments there was a secure exchange of employment and labour both within the village and in the surrounding villages between Dalits and the dominant castes. However, the shift by many non-Dalits to aquaculture and mechanised agriculture has resulted in greater inequality creeping into power relations between the two social groups, with Dalit dependency increasing at an exponential rate to non-Dalit landowner dependency. This leads to greater exploitation of their labour, as seen in villages where the Kuppam Demo project and drip irrigation have been implemented, or caste discrimination in allocation of work, as witnessed in Nidamaru.
- Caste tensions have arisen from the Kuppam Demo project itself, which merely bandaged over caste discrimination against Dalits during its operational period by offering higher wage incentives for Dalit labour. Now that the project has been completed, wage rates in the dominant castes' fields are slowly decreasing from the Demo-period raised rate. Moreover, many dominant caste landowners are employing agricultural labourers from outside the village, threatening to deny Dalits work in their fields once the rains come. The message is clear: any new process of development may have a short-term benefit for those below the untouchability line, whereas in the long term the dominant castes will not only be able to seize much of the benefits, but also retain their hold over Dalits in terms of employment set on their (exploitative) terms.
- In the case of Tavalam watershed, social – caste – relations in the watershed villages have little changed. The only development claimed by many villagers is that the backward caste Valmiki and the forward castes benefited the most under the watershed, due to their undertaking many of the watershed works and positioning watershed structures to benefit their communities. Therefore, when in the future the drought breaks, watershed development benefits will only serve to widen the development gap between Dalits and non-Dalits, reinforcing Dalits' dependency on particularly the dominant castes for employment.

The overall pattern for rural Dalit livelihoods looks grim under Vision 2020. By not addressing the structural causes for Dalit poverty and lower livelihood levels as part of its vision for growth and development in the state, the Andhra Pradesh Government abrogates its role to fulfil the right of Dalits to secure livelihoods. What Dalits are being increasingly left to question is whether the Andhra Pradesh Government is truly committed to securing the right to development of all its citizens without discrimination? And if yes, how can a government that professes its commitment to poverty eradication and social welfare reaffirm this commitment not just on paper, but in terms of concrete action?

Chapter 6

Recommendations for the Future

Livelihood security and human development is a process of enlarging a person's choices, by expanding a person's functioning and capabilities, and hence is both a means and end in itself. The overlapping rights to livelihood and development for Dalits, in this context, require not only capacity building within the bounds of the State and its governance institutions, but also specific protection and promotion of these rights for vulnerable groups such as Dalits. This calls for the Andhra Pradesh Government to replace the monopolistic influence of the GSDP with human, social justice, gender and political indicators of development.

By creating an enabling economic environment and State protection and promotion of rights of marginalised Dalits and other social groups, an effectively integrated state society would be realised, wherein the right to equality and freedom to develop and realise one's potential is guaranteed. These are the basic rights and entitlements of all the state's citizens, which enjoin the State Government to create the required socio-economic set-up to facilitate access to them.

Therefore, to secure Dalits' rights to livelihood and development, the following recommendations are formulated to incorporate Dalit rights into development processes in Andhra Pradesh. They require the State Government to reassess its economic policy as laid down in Vision 2020 in light of the right to development of Dalits and other poor and marginalised communities in the state. This should entail a fundamental change to the government's 'market-based development facilitator' role, into one that actively secures both economic growth and social justice for all.

Recommendations to the Government of Andhra Pradesh

- Elaborate, adopt and implement plans and programmes of economic and social development on an equal and non-discriminatory basis, with equal emphasis to economic growth and social justice demanding that the government play a greater and not lesser role in regulation of the state's economy.
- Review its agricultural policy as to what safeguards and measures should be taken to ensure that poor and marginal farmers and agricultural labourers are made key stakeholders and active partners in the process and management of any agricultural development schemes. Adequate emphasis should be placed at the policy level on selecting areas with high Dalit populations for agricultural development schemes and giving priority to lands belonging to or assigned to Dalits for protection and enhancement through such schemes. Specific emphasis should be also placed on inclusion of women, particularly single or landless women which includes many Dalit women, in all agricultural development schemes to ensure they receive a fair share of the benefits as well as capacitation in new technologies.
- Engage Dalits in competent and responsible development and management of resources that they already have control and access to, and expand this control and access to more equitable levels.
- Fully implement land reforms and land ceiling laws through all possible measures including the distribution of surplus land, government revenue lands and temple lands within a specific timeframe, to guarantee to every landless Dalit family a minimum of 3 acres of cultivable land. All distributed land should be registered in the name of the Dalit woman of the household. Land ceiling laws should also be amended to protect Dalits against lengthy litigation with the ulterior motive of denying Dalits access to land.
- Enact legislation and enforce it stringently to enable Dalits to have an equitable share in the sustainable use of their village common property resources. Again, this law should provide protection to Dalits against lengthy litigation with the ulterior motive of denying Dalits access to common property resources.

- Where surplus land or common property resources are not available, focus upon the development of non-farm employment opportunities in rural areas to provide gainful employment to Dalits. As agricultural labourers are the most affected by changes to agricultural operations, especially technology and mechanisation, the government must develop a comprehensive plan to ensure alternative sources of income generation for Dalits and other affected communities by enhancing their human capital through education, technology transfer and skills trainings.
- Re-orient its economic policy focus towards achieving employment-generating growth through small-scale decentralised agricultural production, where supplies of credit, capital, raw materials and controls of marketing and quality as well as appropriate technology are created to sustain viability of these activities. This must include subsidies to small and marginal farmers to compensate for increased costs of production.
- Place greater policy emphasis on cooperative - agriculture and aquaculture – farming for small and marginal farmers, with sufficient and sustained government financial and technical support until such cooperative organisations are self-sufficient and have autonomy to operate on market-based principles. Special focus should be on equipping women in this category, especially single and Dalit women, with skills to undertake such cooperative ventures.
- Focus on generating employment opportunities in the unorganised labour intensive sector, where many workers are concentrated and which contributes significantly to the GSDP. This must be coupled with formulation of appropriate laws and policies formalising working conditions in this sector in consonance with international labour rights covenants. Technology upgrading should also be introduced to further capacitate workers in this sector.
- Specifically enact legislation in partnership with Dalit and other agricultural labourer communities to protect the rights of agricultural labourers against exploitation and ensuring their minimum wages, equal wages for men and women that match the cost of living, adequate working conditions and social security.

- Ensure government and private organisations implement Supplier Diversity from socially disadvantaged businesses and Dealership Diversity in all goods and services (*as per Bhopal Declaration 2002*). This requires government and private enterprises to ensure that a certain percentage of goods and services are acquired from, as well as supplied to, socially disadvantaged groups such as Dalits running businesses and services.
- Make reservations mandatory in the private and corporate sector in the same proportion as in the public sector and government institutions, and develop the capacities and skills of Dalits to help them cope up with the demands of these different sectors (*as per the Bhopal Declaration 2002*).
- Engage the private sector in the development of a 'code of corporate responsibility' that requires private sector enterprises to examine the impact of their presence on various social groups, particularly poor and marginalised groups and women from such groups.
- Prepare time bound plans to provide Dalits with basic amenities such as drinking water supply, electricity and sanitation on par with the rest of society, to completely eradicate poverty and to provide them employment opportunities.
- Prepare a Dalit Human Development Index and a separate Dalit Women's Human Development Index, taking into consideration such factors as literacy rates, infant mortality, incidence of atrocities against Dalits/ Dalit women, estimates of consumption expenditure and people below poverty line. This index would assess the gap in the socio-economic development of Dalits/ Dalit women and the rest of the society, and pinpoint where efforts are still required for the development of Dalits/ Dalit women (*as per National SC/ST Commission Recommendation, 1999-2000 & 2000-2001 Report*).
- Enhance the human capital of Dalits through sustained programmes to bring Dalit children into education such as implementation of compulsory, free and high quality education for all Dalits, a nutritious midday meal scheme, ensuring compensation to those families which forfeit their income from

child-labour, increasing the number and amount of scholarships and providing better infrastructure in Scheduled Caste schools.

- Extend reservations for Dalits and women to both public and private institutions at all levels of education, including technical education.
- Issue instructions for setting up of more institutes for market-oriented vocational and technical training in 'backward' areas with a predominant Dalit population and ensure adequate representation to Dalits in these institutes so that they are equipped to compete with other candidates for employment in the organised sector.
- Emphasise reforms to public healthcare over devolution of healthcare to local community members, to make public healthcare more accountable and efficient, and to deliver quality low-cost healthcare not below the standard of private healthcare institutions.
- Strengthen institutions of democratic governance through heightening public accountability and transparency to ensure true devolution of powers to the panchayat level. Having set up parallel local institutions such as Water Users' Associations and Watershed Committees, enact legislation to provide for reservations for Dalits in all such local bodies, particularly those which control resources.
- Recognise its key responsibility for safeguarding the rights of Dalits from violations by dominant castes, fundamentalist or fascist forces and take appropriate action, including preventing State capture by the dominant caste-class elite. Implement effectively in letter and spirit the *SC/ST (Prevention of Atrocities) Act 1989* and *Rules 1995*, especially with regard to atrocities against Dalit women, and accordingly prosecute the dominant castes and government officials found guilty of offences under the Act.

Recommendations to local NGOs

- Launch a wide-scale campaign to educate civil society, particularly Dalits, women and other marginalised sections,

on the implications of Vision 2020 and other related Economic Reforms policies for their livelihoods and for socio-economic development of different social groups. Society should be galvanised to question the Andhra Pradesh Government's wholesale relinquishment of its social welfare interventionist role in favour of market interests, and realise whose interests are served through this process in terms of livelihood rights and future development of the state.

- Enhance awareness among Dalits in Andhra Pradesh about their rights, particularly their rights to equality, social justice, livelihood and development, and how to operationalise these rights to demand the government fulfil its constitutional obligations and protect them against caste discrimination and violence.
- Take up the challenge of monitoring government development programmes and delivery of services and systematically report the successes and pitfalls in government socio-economic schemes and programmes. Particular focus should be in terms of caste-gender discrimination and adequacy of inclusion of the stakes of Dalits and other poor, and women of these communities, in such programmes.
- Equip Dalits, in particular Dalit women, with information and knowledge about schemes and programmes that they can access for the purpose of socio-economic development, and mobilise and organise at the grassroots level to ensure Dalits' participation in decision-making.

Recommendations to International Development Cooperation Agencies and International Finance Institutions

- Target financing for development of economic sectors within India with an understanding and focus upon adequate protection for India's poor and marginalised, especially Dalits due to their continuing burden of discrimination on the basis of caste. This should be achieved through a dialogical approach with Dalit women and men leaders and other sections of the poor, to gain an understanding of their development priorities and the obstacles such as caste and gender discrimination that block their access to resources and development opportunities.

- Develop clear standards to monitor and demand the compliance of Andhra Pradesh Government social and economic policies and programmes financed by such agencies with the internationally recognised rights to development and non-discrimination. This requires the State Government to undertake special measures to integrate Dalits into the state's economy and to ensure their basic rights to livelihood and development on par with the rest of the state's citizens.
- Develop programmes and strategies for bilateral and multilateral aid to India that would make funds available to promote training programmes for Dalits and Dalit women in particular as to their social and economic rights, particularly their rights to livelihood and development, and how to understand and secure these rights in the current globalisation context.

Recommendations to United Nations Human Rights Mechanisms

- The UN Committee on Economic, Social and Cultural Rights should pursue the Indian Government to place before the Committee its overdue reports on the status of social, economic and cultural rights over the decade of the 1990s, focusing on the impact of India's economic reforms on these rights. In its request, the Committee should emphasise provision of disaggregated data on the status of fulfilment of these rights for Dalit men, women and children, not merely in terms of laws, policies and programmes to secure these rights to Dalits, but also in terms of actual implementation of these laws, policies and programmes and Dalits' participation in decision-making on development.
- International agencies such as UNDP, UNIFEM, UNICEF and UNCTAD should examine the operation of sub-national economic reforms, taking the case of Andhra Pradesh as an example, and how these reforms are being implemented to the access and benefit of certain caste-gender sections of the community. Based on this examination, these bodies should recommend appropriate revision of Vision 2020 to protect and promote the right to development for Dalits and other sections left out of the state's development process.

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Glossary

Adivasi	Tribal or Indigenous person in India
Anganwadi	Crèche, nursery for babies and children
Antyodaya	Poverty alleviation government programme
Coolie	Daily wage labourer
CMEY	Chief Minister's Employment of Youth government programme
Crore	10,000,000
Dalit	Literally meaning "broken people", a term employed by rights activists to denote "untouchables" or Scheduled Castes, the lowest group in the ritualised social hierarchy of the caste system, facing widespread discrimination on the basis of work and descent
DKT patta land	Revenue wasteland cleared and allotted by the government under a depressed classes quota system
Dominant caste/s	Those falling within the caste system, except Dalits and Adivasis
DPAP	District Poverty Alleviation Programme
DWCRA	Development of Women and Children in Rural Areas government programme
IRDP	Integrated Rural Development Programme, Government of India
IWDP	Integrated Watershed Development Programme
GSDP	Gross State Domestic Product
Gram sabha	Formal gathering of people in a village
Jowar	Great millet
Kutcha housing	Kutcha exterior walls is taken to mean walls made of mud or thatch; kutcha roofing is taken to mean a roof constructed from thatch, iron sheets or stone
Lakh	100,000
Mestry	Supervisor

National SC/ST Commission	National Commission for Scheduled Castes and Scheduled Tribes
Panchayati Raj	Local self-governance system
Patta	Title deed of land ownership
PDS ration shop	Public distribution system ration shop
Pucca housing	Official term used by the Indian Government to denote standard housing. Pucca exterior walls is taken to mean walls made from cement, or bricks or stone mixed with cement, while pucca roofing is taken to mean a roof constructed from cement or brick tiles
Poromboke land	Uncultivable wasteland
Ragi	Millet
Reservations	Quotas for Dalits allowing for increased representation in education, government jobs and political bodies
Scheduled Caste	The official terminology used to connote those communities listed by the Government of India as Dalits for the purposes of accessing special development, protection and positive discrimination schemes
SDP	State Domestic Product
Semi-pucca exterior walls	Semi-pucca exterior walls is taken to mean walls made from bricks or stone mixed with mud
Sharecropping	Common leasing-in contract in rural areas, wherein both the lessor and lessee agree to share equally the costs of inputs and the yields
SHG	Saving and Credit Self-Help Group
Telugu Desam Party (TDP)	Telugu Desam Party, the former ruling party in Andhra Pradesh
Velugu	Government programme for development of people below poverty line

Sakshi - Human Rights Watch Andhra Pradesh, formed in 1999, brings together a group of activists, academicians and advocates working on Dalit issues who felt the need to be involved in human rights from a Dalit perspective. It aims to create **a society where Dalit women, men, children and communities enjoy dignity, liberty, security and equal opportunities**. Sakshi profiles Dalit issues as fundamental issues of human rights through monitoring and reporting Dalit Human Rights violations, documentation, training, research and advocacy. The following strategies are utilised:

- ❖ Collaborating with and supporting existing and emerging Dalit movements and initiatives; raising consciousness about rights; monitoring Dalit Human Rights violations; informing and sensitising civil society; and encouraging a supportive and pro-active environment for the affirmation and defence of Dalit civil, political, social, cultural and economic rights.
- ❖ Interfacing with statutory and civil bodies at all levels to pressurise the State to take adequate organisational and institutional measures to bring Dalit Rights under the purview of Human Rights and to protect these rights.
- ❖ Facilitating and strengthening a collective of human rights organisations to lobby at local, national and international levels for the recognition and protection of Dalit Human Rights.
- ❖ Pro-active interventions within Dalit communities to promote gender equity, child rights and the recognition of equal rights among all caste identities.

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Andhra Pradesh in Southern India was hailed as a 'model state' for market friendly economic reforms, with its own 'Vision 2020' economic policy introduced in 1999 to take advantage of a liberalised global economy. Yet, how did the 'model state' fare in its duty to the most vulnerable of its citizens?

New Economic Reforms : Hope or Mirage for Dalit Livelihoods? examines the impact of globalisation on the livelihoods of marginalised and socio-economically vulnerable Dalits in rural Andhra Pradesh. It investigates how the Vision 2020 document translates into life at the grassroots from a human rights perspective, with priority to Dalit well-being and livelihood security over economic imperatives. It specifically examines Dalit livelihood rights in three rural sectors promoted through Vision 2020 as key growth areas: (i) aquaculture; (ii) contract farming; and minor irrigation schemes; and (iii) watersheds.

With three case studies covering thirteen villages, it proves that the benefits of current market-driven globalisation and economic reforms are not 'trickling down' to the Dalits and that benefits remain in the hands of dominant caste interests. The main factor behind this phenomenon is the socio-economic un-freedom that Dalits experience, which is perpetuated by untouchability, caste discrimination and social exclusion.

It then goes on to construct a more holistic picture of livelihoods in a caste society, by examining caste predication of freedom of choice and access to resources, opportunities and participation in livelihood building activities. This pinpoints priority areas of work to bring the Dalit community into the process of development. Without this understanding, globalisation processes fail to alleviate and instead reinforce or exacerbate violations of Dalits' livelihood rights.

This study is an important contribution to understand livelihood development processes in India, in that it emphasises the need to analyse globalisation-induced projects and programmes from a Dalit perspective.



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